

Solution des exercices du Cours 4

1. Ecrire un programme qui demande à l'utilisateur d'entrer des notes.
L'utilisateur indiquera qu'il veut arrêter en entrant la valeur -1.

Le programme affichera alors la moyenne des notes.

2. Modifier le programme pour limiter le nombre de notes à 10. L'utilisateur peut toujours entrer -1 s'il souhaite arrêter.

3. Modifier le programme pour qu'il affiche la note la plus grande.

4. Modifier le programme pour qu'il affiche le nombre de notes supérieures à 4.

```
float somme = 0;
...
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    ...
} while(...);
...
```

1. Ecrire un programme qui demande à l'utilisateur d'entrer des notes. L'utilisateur indiquera qu'il veut arrêter en entrant la valeur -1. Le programme affichera alors la moyenne des notes.

```
float somme = 0;
...
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    ...
} while(...);
...
```

1. Ecrire un programme qui demande à l'utilisateur d'entrer des notes. L'utilisateur indiquera qu'il veut arrêter en entrant la valeur -1. Le programme affichera alors la moyenne des notes.

```
float somme = 0;
...
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    somme = somme + note; // !!!
} while(...);
...
```

1. Ecrire un programme qui demande à l'utilisateur d'entrer des notes. L'utilisateur indiquera qu'il veut arrêter en entrant la valeur -1. Le programme affichera alors la moyenne des notes.

```
float somme = 0;
...
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    somme = somme + note;
} while(note != -1);
...
```

1. Ecrire un programme qui demande à l'utilisateur d'entrer des notes. L'utilisateur indiquera qu'il veut arrêter en entrant la valeur -1. Le programme affichera alors la moyenne des notes.

```
float somme = 0;
...
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
        somme = somme + note;
} while(note != -1);
...
```

1. Ecrire un programme qui demande à l'utilisateur d'entrer des notes. L'utilisateur indiquera qu'il veut arrêter en entrant la valeur -1. Le programme affichera alors la moyenne des notes.

```
float somme = 0;
int nombre_de_notes = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1);
```

1. Ecrire un programme qui demande à l'utilisateur d'entrer des notes.
L'utilisateur indiquera qu'il veut arrêter en entrant la valeur -1.
Le programme affichera alors la moyenne des notes.

```
float somme = 0;
int nombre_de_notes = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

```
float somme = 0;
int nombre_de_notes = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

Il reste un bug! Où ?

Si l'utilisateur entre directement -1, `nombre_de_notes` reste à 0, et le calcul de la moyenne provoque une division par 0. Pour éviter cela, on peut changer la dernière ligne en:

```
if (nombre_de_notes > 0)
    cout << "Moyenne: " << somme / nombre_de_notes << endl;
else
    cout << "Aucune note entree." << endl;
```

2. Modifier le programme pour limiter le nombre de notes à 10. L'utilisateur peut toujours entrer -1 s'il souhaite arrêter.

```
float somme = 0;
int nombre_de_notes = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

2. Modifier le programme pour limiter le nombre de notes à 10. L'utilisateur peut toujours entrer -1 s'il souhaite arrêter.

```
float somme = 0;
int nombre_de_notes = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

3. Modifier le programme pour qu'il affiche la note la plus grande.

```
float somme = 0;
int nombre_de_notes = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

3. Modifier le programme pour qu'il affiche la note la plus grande.

```
float somme = 0;
int nombre_de_notes = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

$$U_0 = 0$$

$$\text{Si } \text{note} > U_{n-1}, U_n = \text{note}$$

$$\text{Si } \text{note} \leq U_{n-1}, U_n = U_{n-1}$$

3. Modifier le programme pour qu'il affiche la note la plus grande.

```
float somme = 0;
int nombre_de_notes = 0;
float U = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        if (note > U)
            U = note;
        else
            U = U;
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

$$U_0 = 0$$

Si $note > U_{n-1}$, $U_n = note$

Si $note \leq U_{n-1}$, $U_n = U_{n-1}$

3. Modifier le programme pour qu'il affiche la note la plus grande.

```
float somme = 0;
int nombre_de_notes = 0;
float U = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        if (note > U)
            U = note;

        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

3. Modifier le programme pour qu'il affiche la note la plus grande.

```
float somme = 0;
int nombre_de_notes = 0;
float U = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        if (note > U)
            U = note;
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

3. Modifier le programme pour qu'il affiche la note la plus grande.

```
float somme = 0;
int nombre_de_notes = 0;
float note_maximale = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        if (note > note_maximale)
            note_maximale = note;
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
cout << "Note maximale: " << note_maximale << endl;
```

4. Modifier le programme pour qu'il affiche le nombre de notes supérieures à 4.

```
float somme = 0;
int nombre_de_notes = 0;
float note_maximale = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        if (note > note_maximale)
            note_maximale = note;
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
cout << "Note maximale: " << note_maximale << endl;
```

4. Modifier le programme pour qu'il affiche le nombre de notes supérieures à 4.

```
float somme = 0;
int nombre_de_notes = 0;
float note_maximale = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        if (note > note_maximale)
            note_maximale = note;
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
cout << "Note maximale: " << note_maximale << endl;
```

$$U_0 = 0$$

$$\text{Si } \text{note} \geq 4, U_n = U_{n-1} + 1$$

$$\text{Si } \text{note} < 4, U_n = U_{n-1}$$

4. Modifier le programme pour qu'il affiche le nombre de notes supérieures à 4.

```
float somme = 0;
int nombre_de_notes = 0;
int U = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        if (note >= 4)
            U = U + 1; // U++;
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

$$U_0 = 0$$

$$\text{Si } \text{note} \geq 4, U_n = U_{n-1} + 1$$

$$\text{Si } \text{note} < 4, U_n = U_{n-1}$$

4. Modifier le programme pour qu'il affiche le nombre de notes supérieures à 4.

```
float somme = 0;
int nombre_de_notes = 0;
int nb_notes_sup_4 = 0;
do {
    float note;
    cout << "Entrez une note" << endl;
    cin >> note;
    if (note != -1)
    {
        if (note >= 4)
            nb_notes_sup_4 = nb_notes_sup_4 + 1;
        somme = somme + note;
        nombre_de_notes++;
    }
} while(note != -1 && nombre_de_notes < 10);
cout << "Moyenne: " << somme / nombre_de_notes << endl;
```

Exercices supplémentaires

Qu'affiche le programme suivant ?

```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

bool c = a || b;
if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```

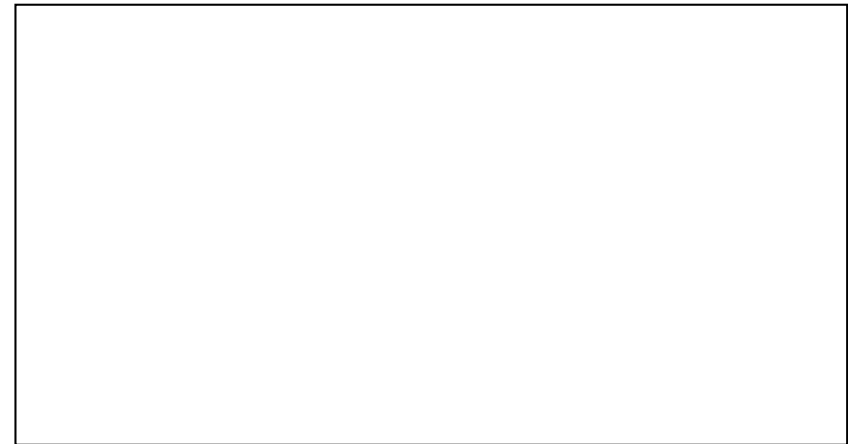
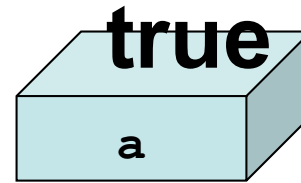
```
→ bool a = true;
   if (a)
       cout << "+" << endl;
   else
       cout << "-" << endl;

   bool b = (1 == 2);
   if (b)
       cout << "A" << endl;
   else
       cout << "B" << endl;

   if (a || b)
       cout << "C" << endl;
   if (a && b)
       cout << "D" << endl;

   bool c = a || b;
   if (c)
       cout << "E" << endl;

   if (!c)
       cout << "F" << endl;
```



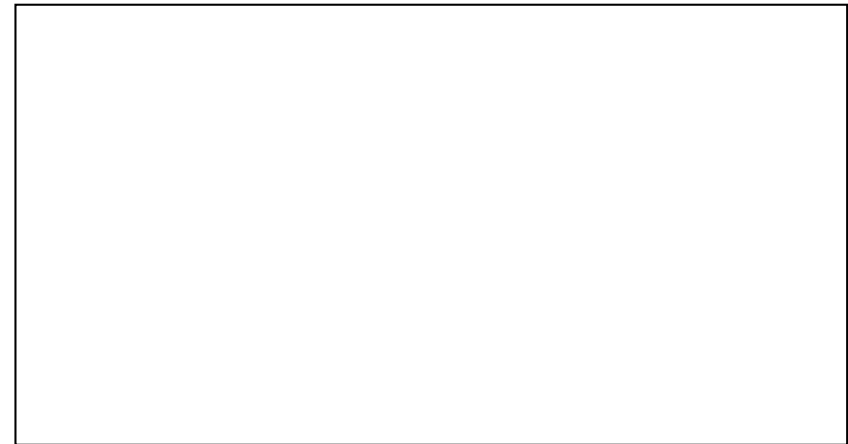
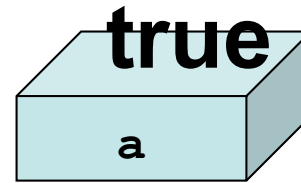
```
→ bool a = true;
   if (a)
       cout << "+" << endl;
   else
       cout << "-" << endl;

   bool b = (1 == 2);
   if (b)
       cout << "A" << endl;
   else
       cout << "B" << endl;

   if (a || b)
       cout << "C" << endl;
   if (a && b)
       cout << "D" << endl;

   bool c = a || b;
   if (c)
       cout << "E" << endl;

   if (!c)
       cout << "F" << endl;
```



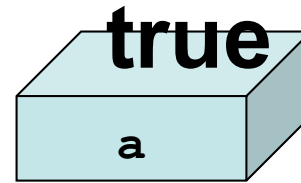
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

bool c = a || b;
if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```



```
+
```

```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;
```

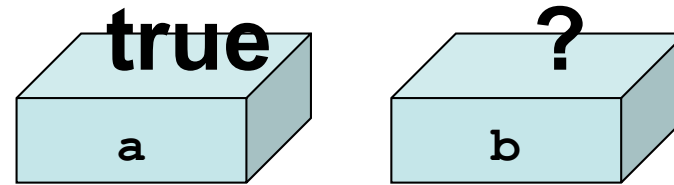
➔

```
bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

```
if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;
```

```
bool c = a || b;
if (c)
    cout << "E" << endl;
```

```
if (!c)
    cout << "F" << endl;
```



```
+
```

```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;
```

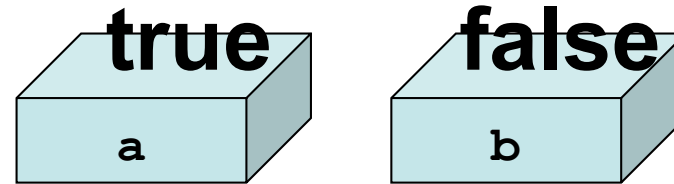
➔

```
bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

```
if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;
```

```
bool c = a || b;
if (c)
    cout << "E" << endl;
```

```
if (!c)
    cout << "F" << endl;
```



```
+
```

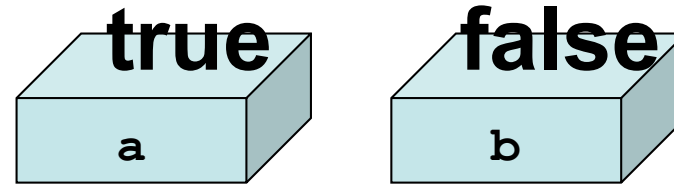
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
→ if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

bool c = a || b;
if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```



```
+
```

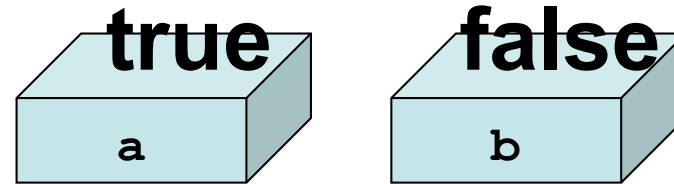
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

bool c = a || b;
if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```



```
+
B
```

```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;
```

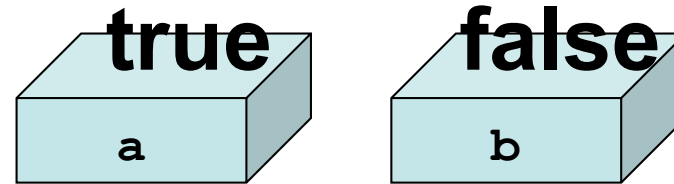
```
bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

→

```
if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;
```

```
bool c = a || b;
if (c)
    cout << "E" << endl;
```

```
if (!c)
    cout << "F" << endl;
```



```
+
B
```

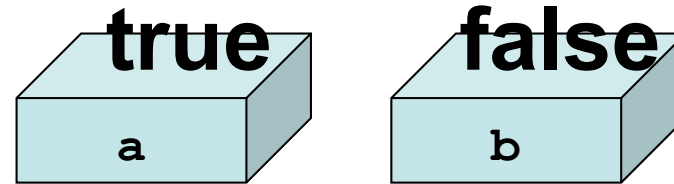
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

bool c = a || b;
if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```



```
+
B
C
```

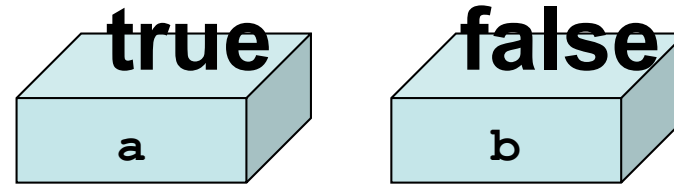
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
→ if (a && b)
    cout << "D" << endl;

bool c = a || b;
if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```



```
+
B
C
```

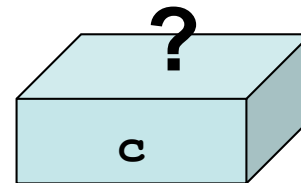
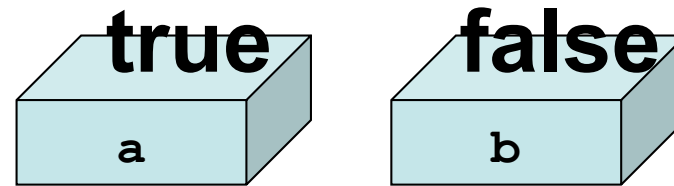
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

→ bool c = a || b;
if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```



```
+
B
C
```

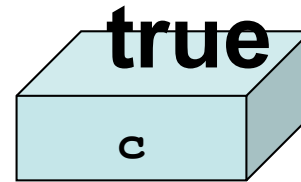
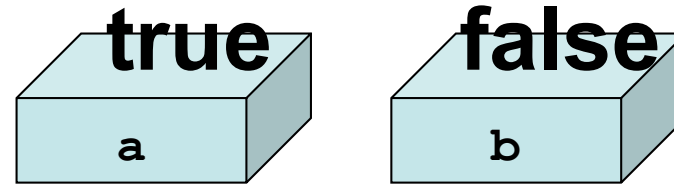
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

→ bool c = a || b;
if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```



```
+
B
C
```

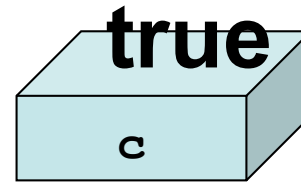
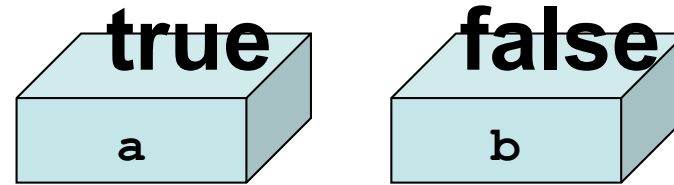
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

bool c = a || b;
→ if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```



```
+
B
C
```

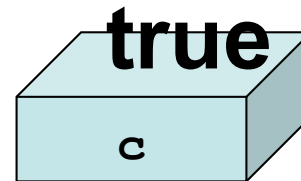
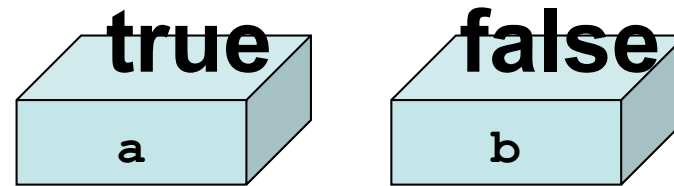
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

bool c = a || b;
if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```



```
+
B
C
E
```



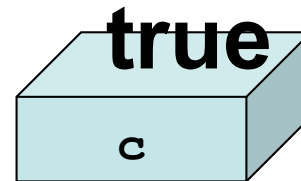
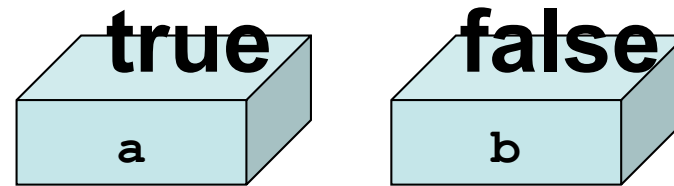
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

bool c = a || b;
if (c)
    cout << "E" << endl;

→ if (!c)
    cout << "F" << endl;
```



```
+
B
C
E
```

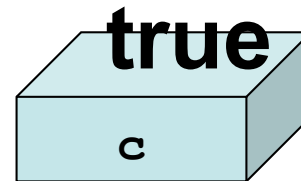
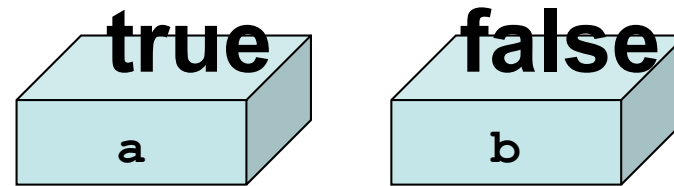
```
bool a = true;
if (a)
    cout << "+" << endl;
else
    cout << "-" << endl;

bool b = (1 == 2);
if (b)
    cout << "A" << endl;
else
    cout << "B" << endl;

if (a || b)
    cout << "C" << endl;
if (a && b)
    cout << "D" << endl;

bool c = a || b;
if (c)
    cout << "E" << endl;

if (!c)
    cout << "F" << endl;
```



```
+
B
C
E
```



Qu'affichent les programmes suivants ?

D:

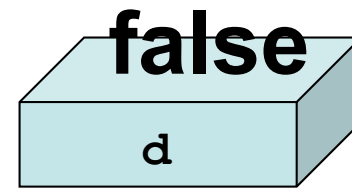
```
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
    if (n % i == 0)
        d = true;
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

E:

Même programmes mais avec
n = 13, 16, 23.

F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

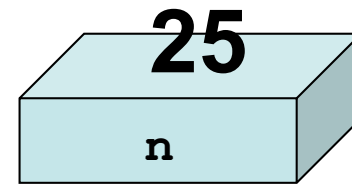
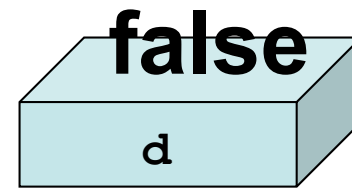


D:

```
→ bool d = false;
   int n = 25;
   for(int i = 2; i < 13; i++)
       if (n % i == 0)
           d = true;
   if (d)
       cout << "A" << endl;
   else
       cout << "B" << endl;
```

D:

```
bool d = false;  
int n = 25;  
for(int i = 2; i < 13; i++)  
    if (n % i == 0)  
        d = true;  
if (d)  
    cout << "A" << endl;  
else  
    cout << "B" << endl;
```



D:

```
bool d = false;
```

```
int n = 25;
```

```
→ for(int i = 2; i < 13; i++)
```

```
    if (n % i == 0)
```

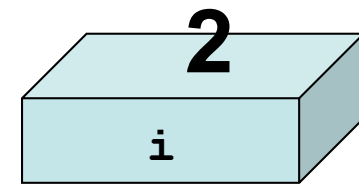
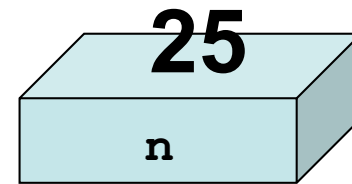
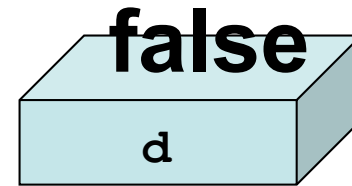
```
        d = true;
```

```
if (d)
```

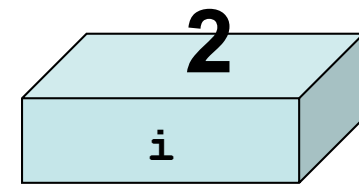
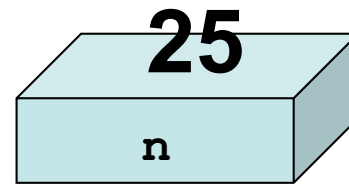
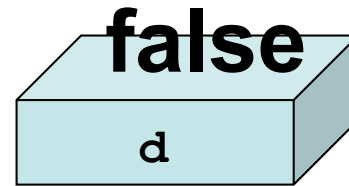
```
    cout << "A" << endl;
```

```
else
```

```
    cout << "B" << endl;
```



D:
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
 if (n % i == 0)
 d = true;
if (d)
 cout << "A" << endl;
else
 cout << "B" << endl;



D:

```
bool d = false;
```

```
int n = 25;
```

```
→ for(int i = 2; i < 13; i++)
```

```
    if (n % i == 0)
```

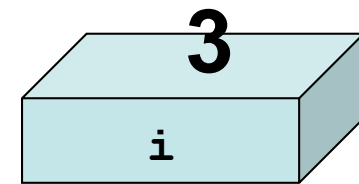
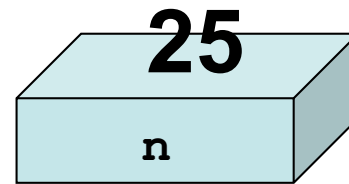
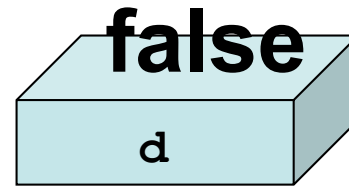
```
        d = true;
```

```
if (d)
```

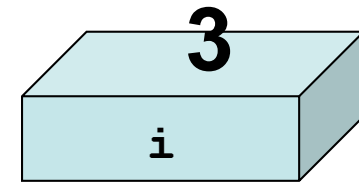
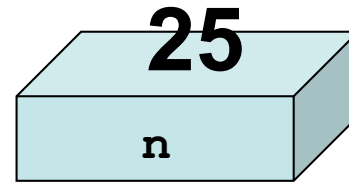
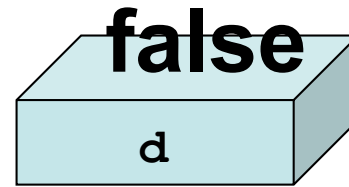
```
    cout << "A" << endl;
```

```
else
```

```
    cout << "B" << endl;
```



```
D:
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
    if (n % i == 0)
        d = true;
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



D:

```
bool d = false;
```

```
int n = 25;
```

```
→ for(int i = 2; i < 13; i++)
```

```
    if (n % i == 0)
```

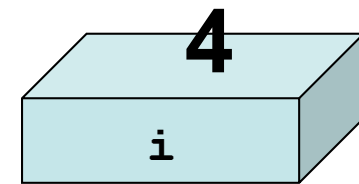
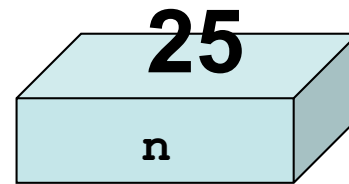
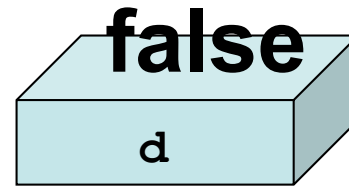
```
        d = true;
```

```
    if (d)
```

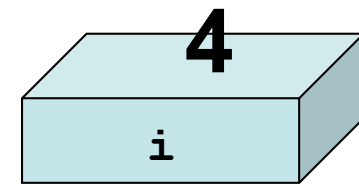
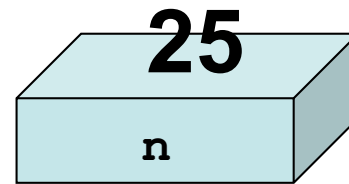
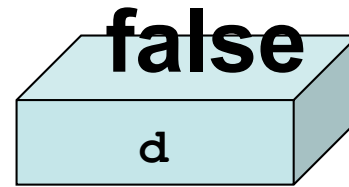
```
        cout << "A" << endl;
```

```
    else
```

```
        cout << "B" << endl;
```



D:
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
 if (n % i == 0)
 d = true;
if (d)
 cout << "A" << endl;
else
 cout << "B" << endl;



D:

```
bool d = false;
```

```
int n = 25;
```

```
→ for(int i = 2; i < 13; i++)
```

```
    if (n % i == 0)
```

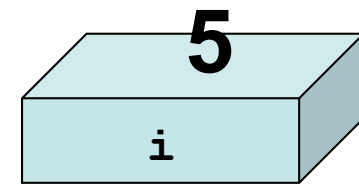
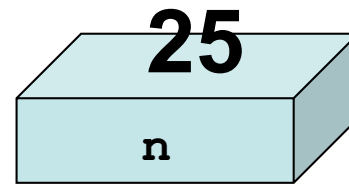
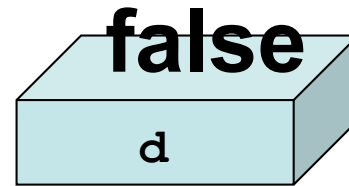
```
        d = true;
```

```
if (d)
```

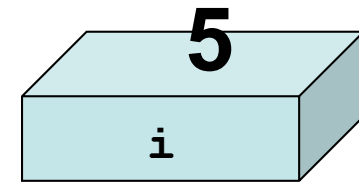
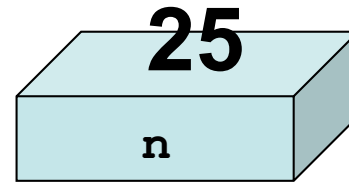
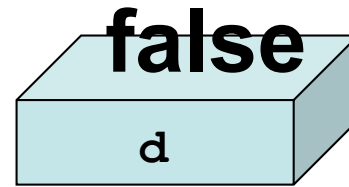
```
    cout << "A" << endl;
```

```
else
```

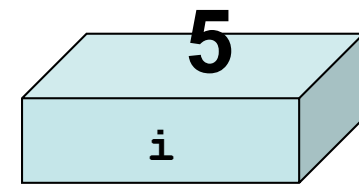
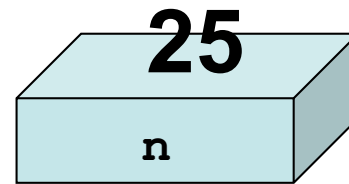
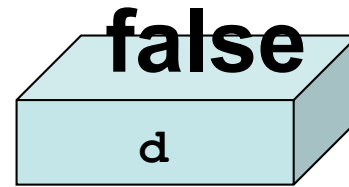
```
    cout << "B" << endl;
```



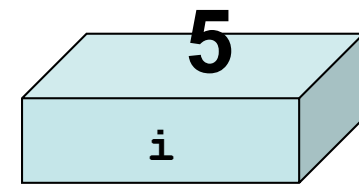
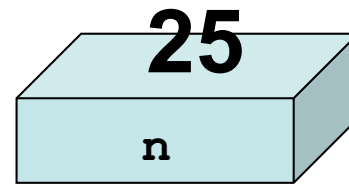
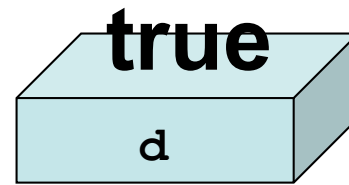
```
D:
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
    if (n % i == 0)
        d = true;
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



D:
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
 if (n % i == 0)
 d = true;
if (d)
 cout << "A" << endl;
else
 cout << "B" << endl;



```
D:
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
    if (n % i == 0)
        d = true;
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



D:

```
bool d = false;
```

```
int n = 25;
```

```
→ for(int i = 2; i < 13; i++)
```

```
    if (n % i == 0)
```

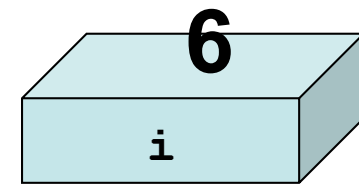
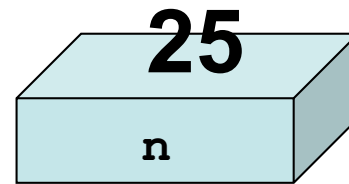
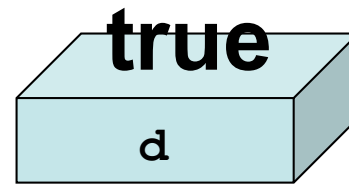
```
        d = true;
```

```
    if (d)
```

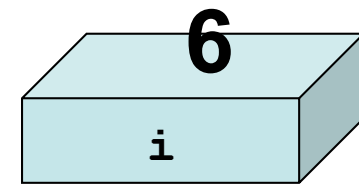
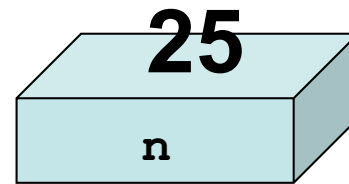
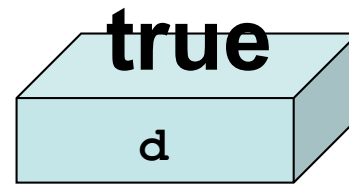
```
        cout << "A" << endl;
```

```
    else
```

```
        cout << "B" << endl;
```



```
D:
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
    if (n % i == 0)
        d = true;
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



D:

```
bool d = false;
```

```
int n = 25;
```

```
→ for(int i = 2; i < 13; i++)
```

```
    if (n % i == 0)
```

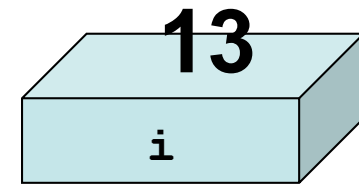
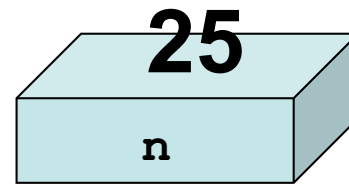
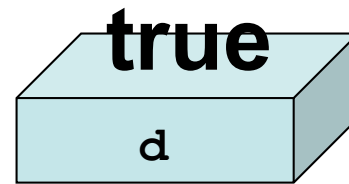
```
        d = true;
```

```
    if (d)
```

```
        cout << "A" << endl;
```

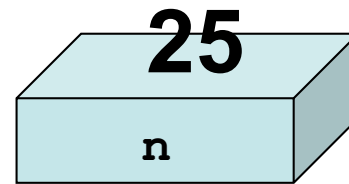
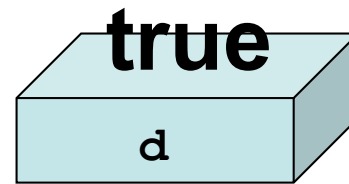
```
    else
```

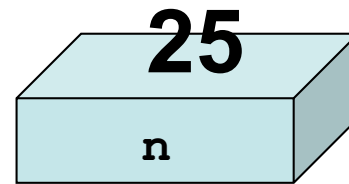
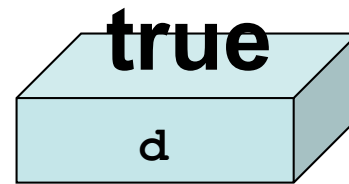
```
        cout << "B" << endl;
```



D:

```
bool d = false;  
int n = 25;  
for(int i = 2; i < 13; i++)  
    if (n % i == 0)  
        d = true;  
→ if (d)  
    cout << "A" << endl;  
else  
    cout << "B" << endl;
```

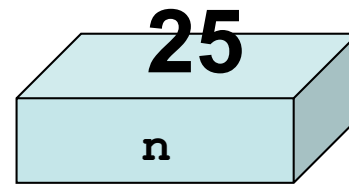
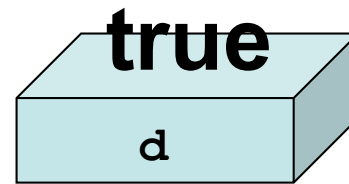




```
D:
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
    if (n % i == 0)
        d = true;
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



```
A
```



```
D:  
bool d = false;  
int n = 25;  
for(int i = 2; i < 13; i++)  
    if (n % i == 0)  
        d = true;  
if (d)  
    cout << "A" << endl;  
else  
    cout << "B" << endl;
```



A

D:

```
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
    if (n % i == 0)
        d = true;
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

E:

Même programmes mais avec
n = 13, 16, 23.

D:

```
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
    if (n % i == 0)
        d = true;
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

n = 13
-> B

E:

Même programmes mais avec
n = 13, 16, 23.

D:

```
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
    if (n % i == 0)
        d = true;
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

n = 13
-> B

n = 16
-> A

E:

Même programmes mais avec
n = 13, 16, 23.

D:

```
bool d = false;
int n = 25;
for(int i = 2; i < 13; i++)
    if (n % i == 0)
        d = true;
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

n = 13
-> B

n = 16
-> A

n = 23
-> B

E:

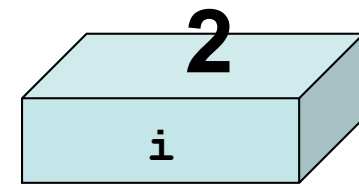
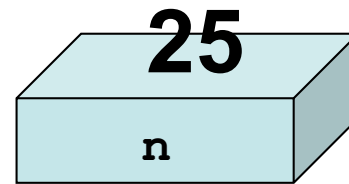
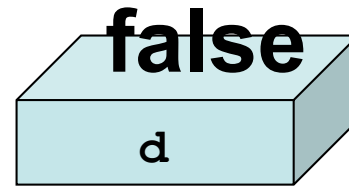
Même programmes mais avec
n = 13, 16, 23.

F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

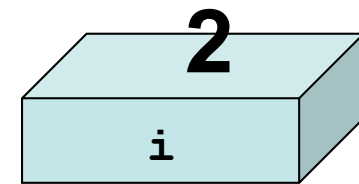
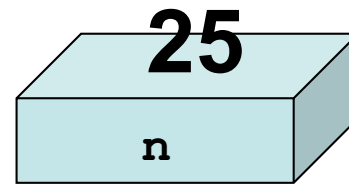
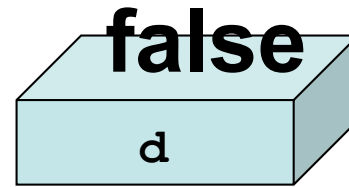
F:

```
bool d = false;  
int n = 25, i = 2;  
→ do  
{  
    if (n % i == 0)  
        d = true;  
    i++;  
} while(!d && i < 13);  
if (d)  
    cout << "A" << endl;  
else  
    cout << "B" << endl;
```



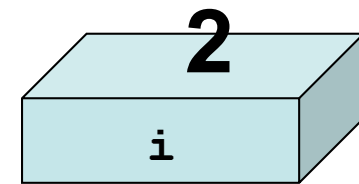
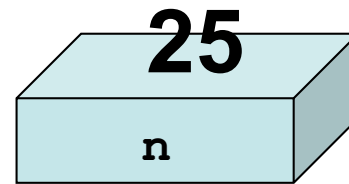
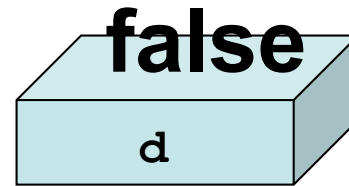
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



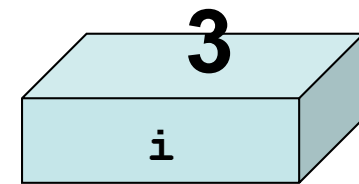
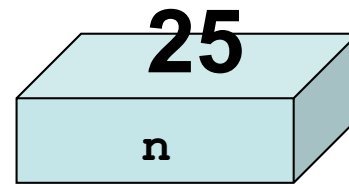
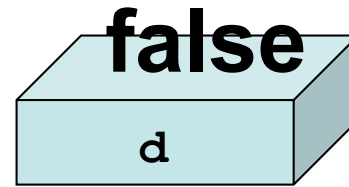
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



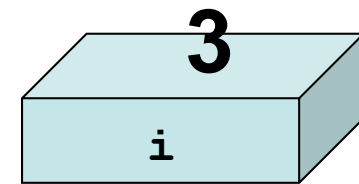
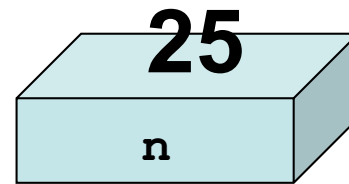
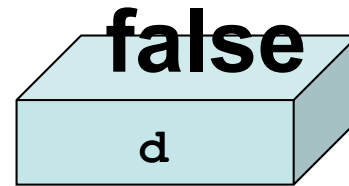
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



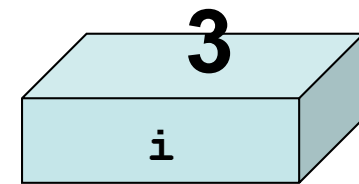
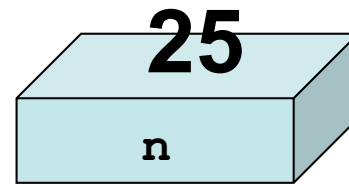
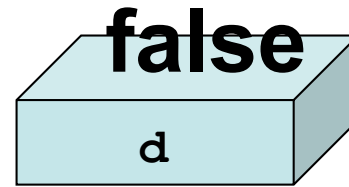
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



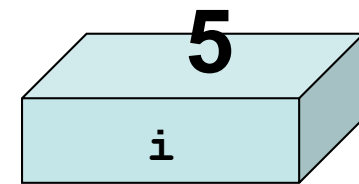
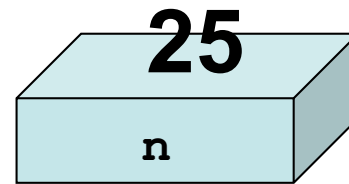
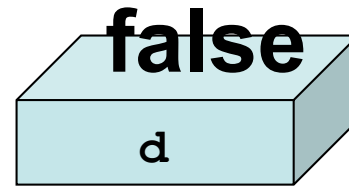
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



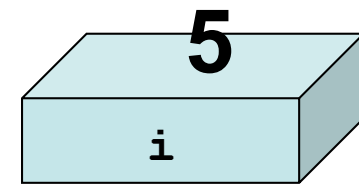
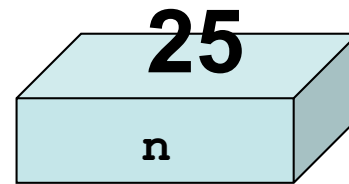
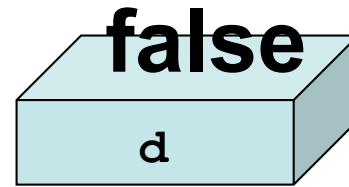
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



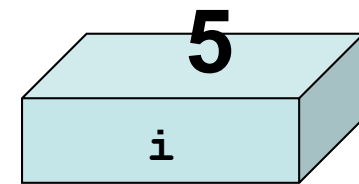
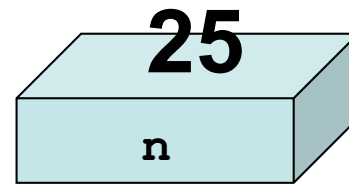
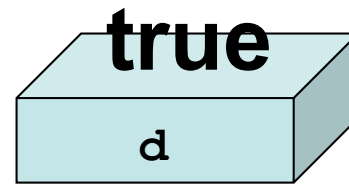
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



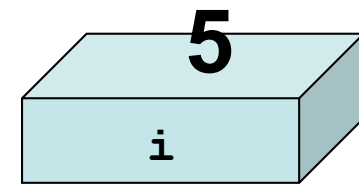
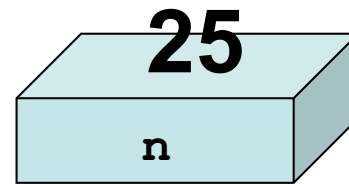
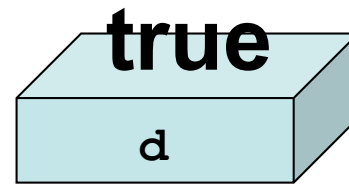
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



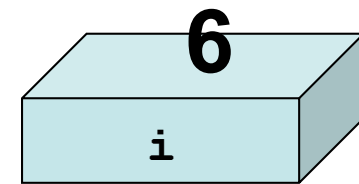
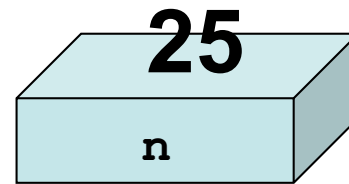
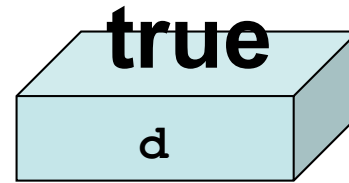
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



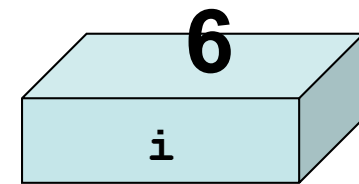
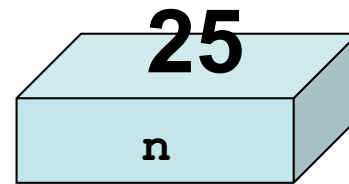
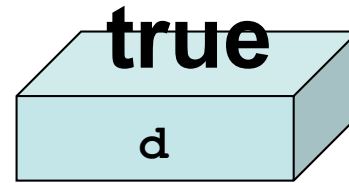
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



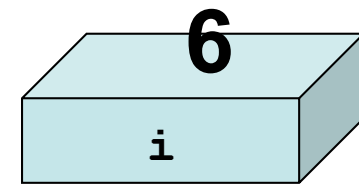
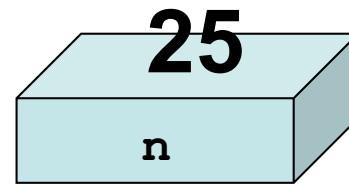
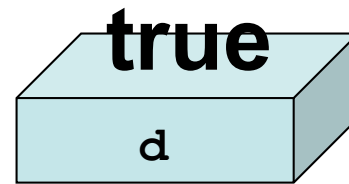
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



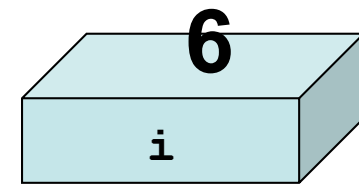
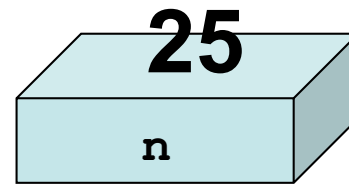
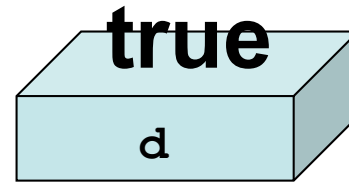
F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
→ if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```



F:

```
bool d = false;
int n = 25, i = 2;
do
{
    if (n % i == 0)
        d = true;
    i++;
} while(!d && i < 13);
if (d)
    cout << "A" << endl;
else
    cout << "B" << endl;
```

