

Looping

- For
- While
- Do while
- Statement : break and continue

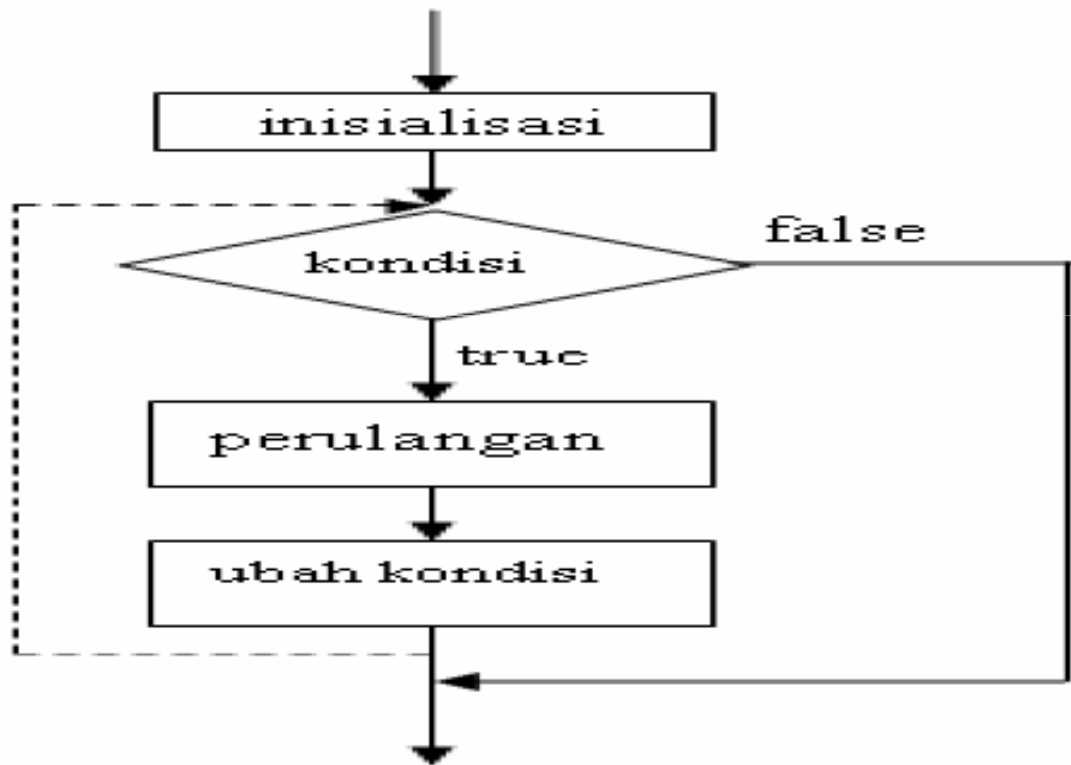
for loop

```
for (initialization; loopCondition; step) {  
    statement1;  
    statement2;  
    . . .  
}
```

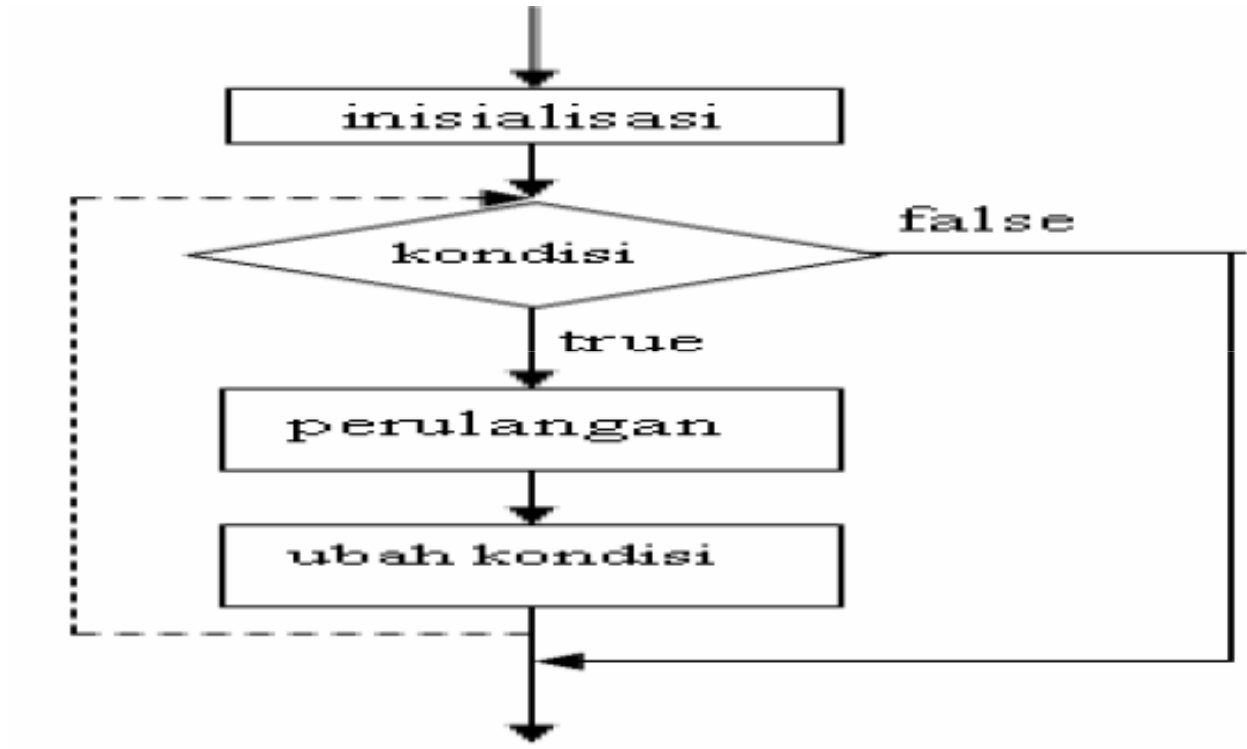
Sample

```
int i;  
for (i=0; i <=10 ; i++) {  
    printf("%d", i);  
}
```

Flowchart (for)



Flowchart (while)



while loop

```
while( boolean_expression ){  
    statement1;  
    statement2;  
    . . .  
}
```

Sample

```
int i;  
i = 0;  
while( i <=10 ){  
    printf("%d",i);  
    i++;  
}
```

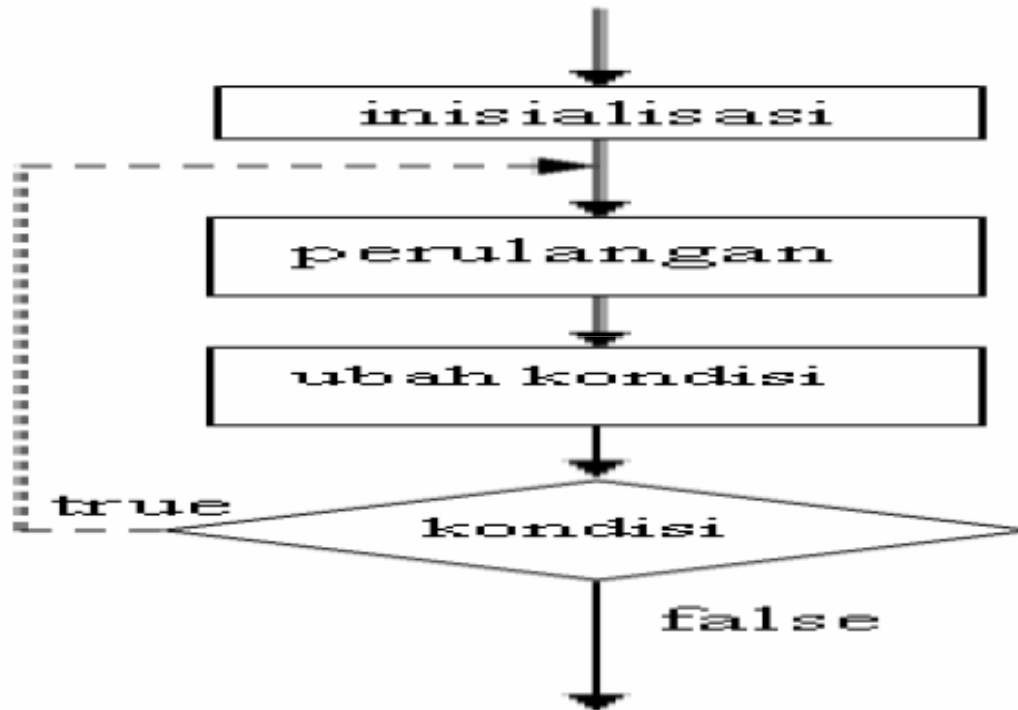
do while loop

```
do {  
    statement1;  
    statement2;  
    . . .  
}while( boolean_expression );
```

Sample

```
int i;  
i = 0;  
do{  
    printf ("%d",i);  
    i++;  
}while( i <= 10 );
```

Flowchart (do while)

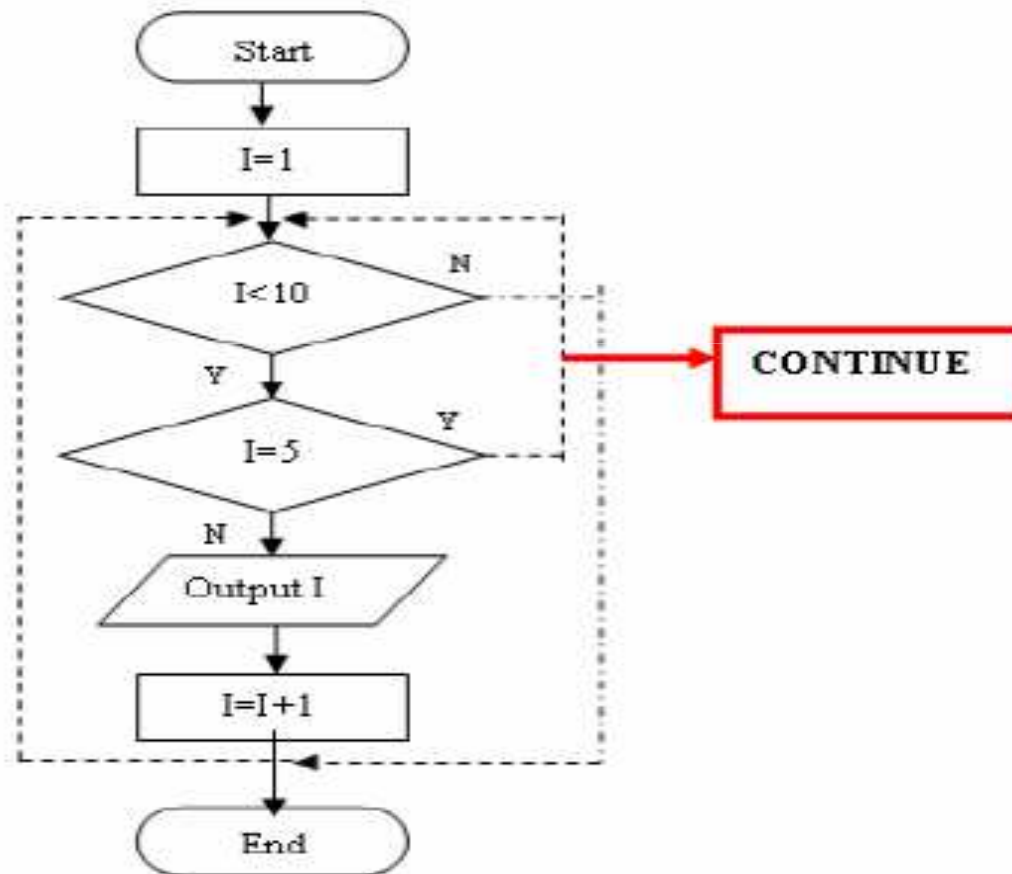


Statement : continue

```
int i;  
for (i=0; i <=10 ; i++) {  
    if (i==5) {  
        continue;  
    }  
    printf ("%d", i);  
}
```

Output : 01234678910

Flowchart (continue)

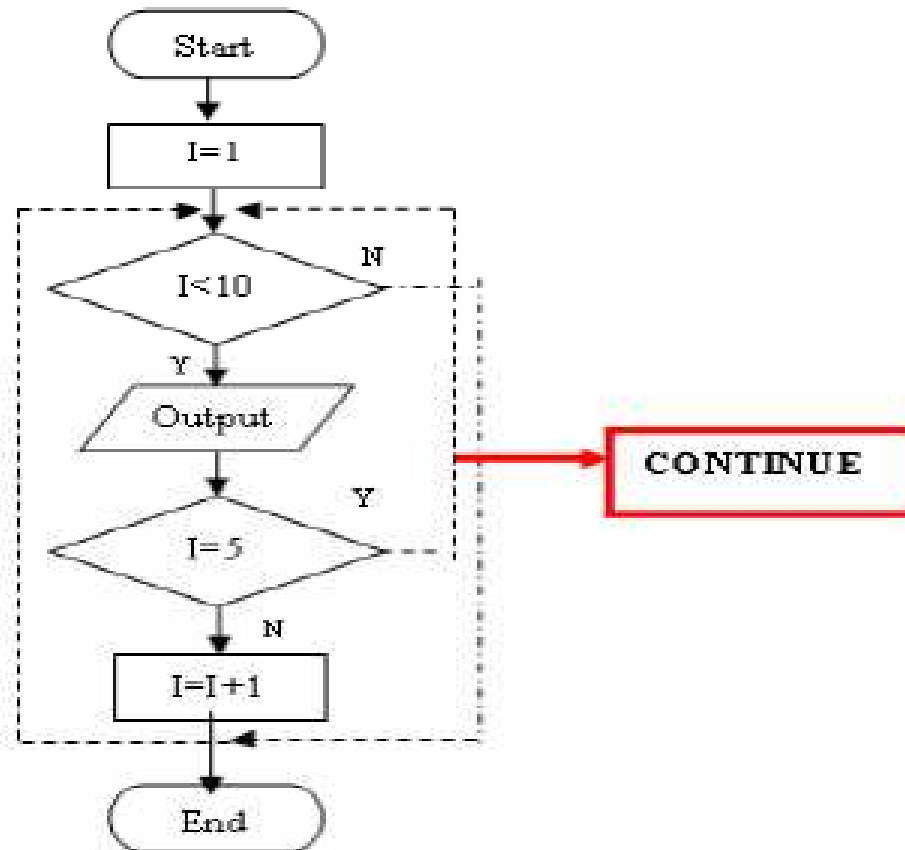


Continue (2)

```
int i;  
for (i=0; i <=10 ; i++) {  
    printf("%d", i);  
    if (i==5) {  
        continue;  
    }  
}
```

Output : 012345678910

Flowchart (continue 2)

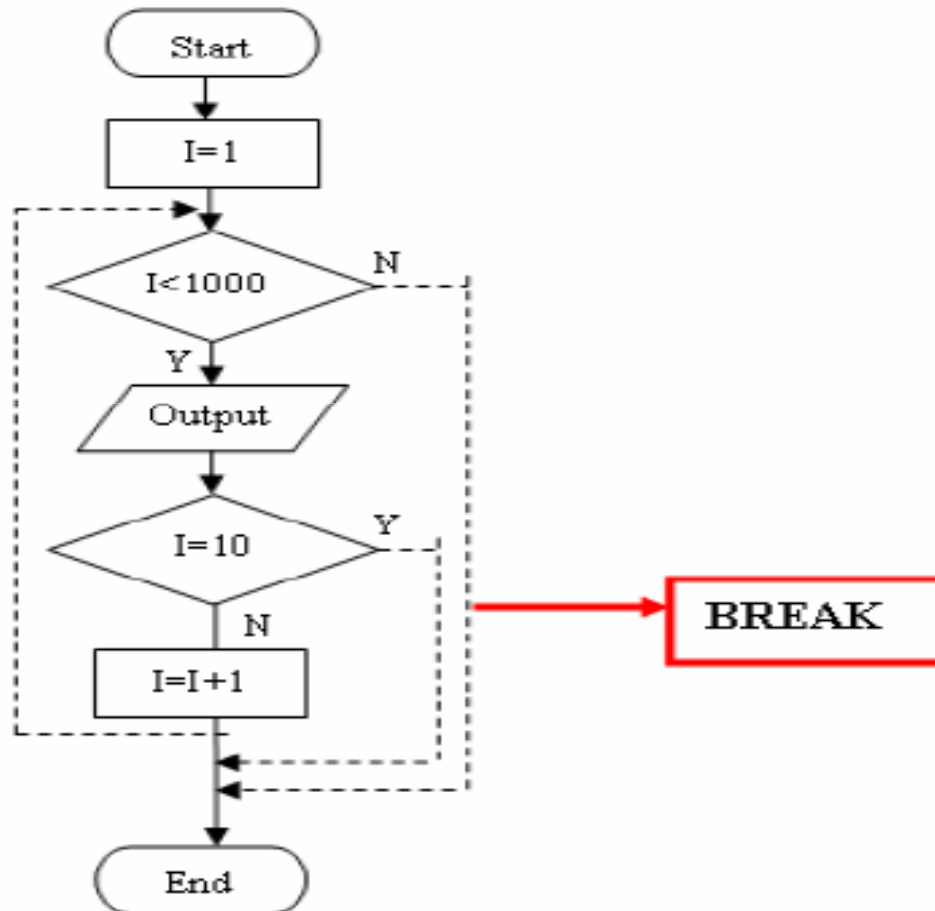


Statement : break

```
int i;  
for (i=0; i <1000 ; i++) {  
    printf("%d",i);  
    if(i==10) {  
        break;  
    }  
}
```

Output : 012345678910

Flowchart (break)

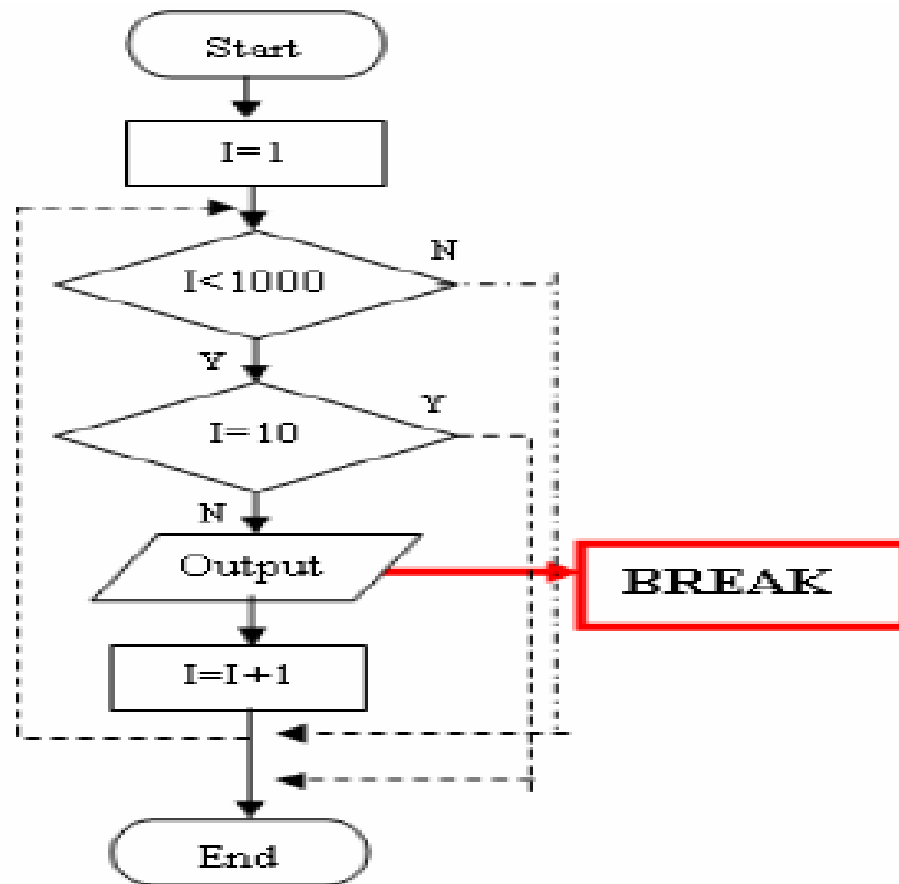


Break (2)

```
int i;
for (i=0; i <=1000 ; i++) {
    if (i==10) {
        break;
    }
    printf ("%d", i);
}
```

Output : 0123456789

Flowchart (break 2)



Question ?

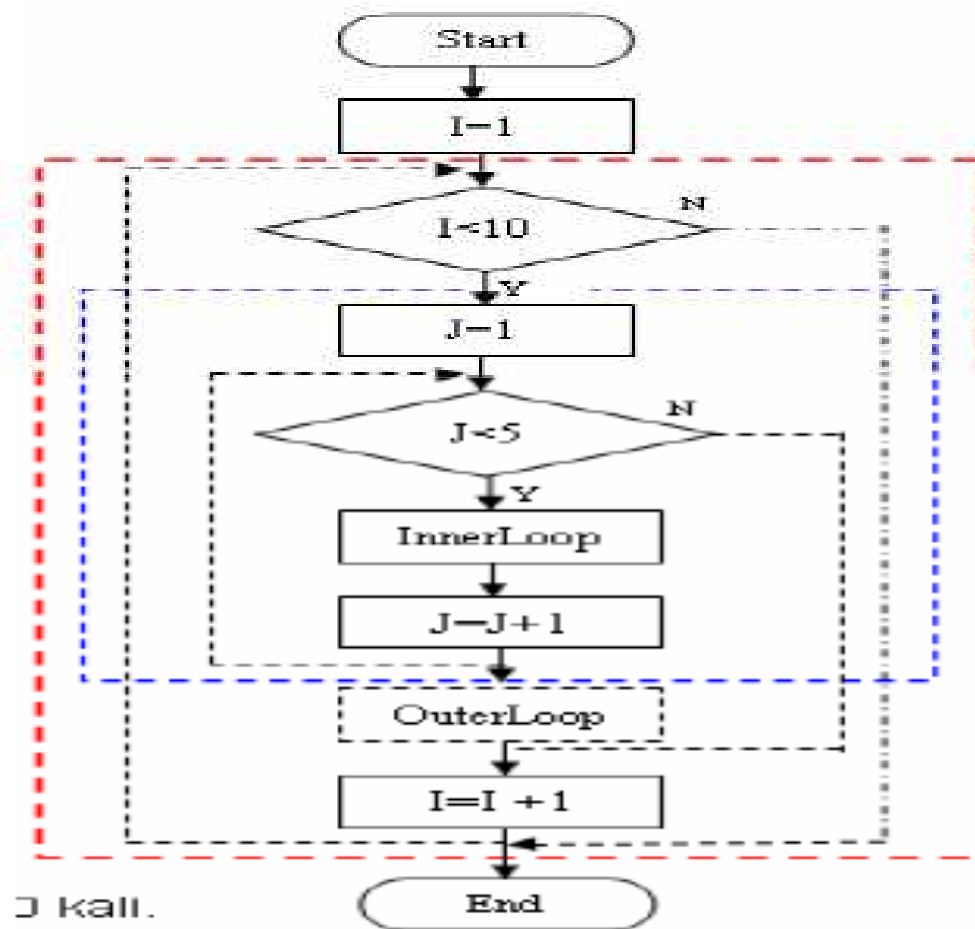
Exercise (1)

- Buat flowchart loop menggunakan for untuk menampilkan angka 1 s/d 20.
- Buat flowchart loop menggunakan while untuk menampilkan angka 1 s/d 1000.
- Buat flowchart loop menggunakan for untuk menampilkan bilangan genap antara 1 dan 100.
- Buat flowchart loop menggunakan while untuk menampilkan bilangan ganjil antara 1 dan 100.

Nested Loop (for)

```
int i;  
for (i=1; i < 10 ; i++) {  
    for (j=1; j < 5 ; j++) {  
        printf("i=%d,j=%d \t", i, j);  
    }  
}
```

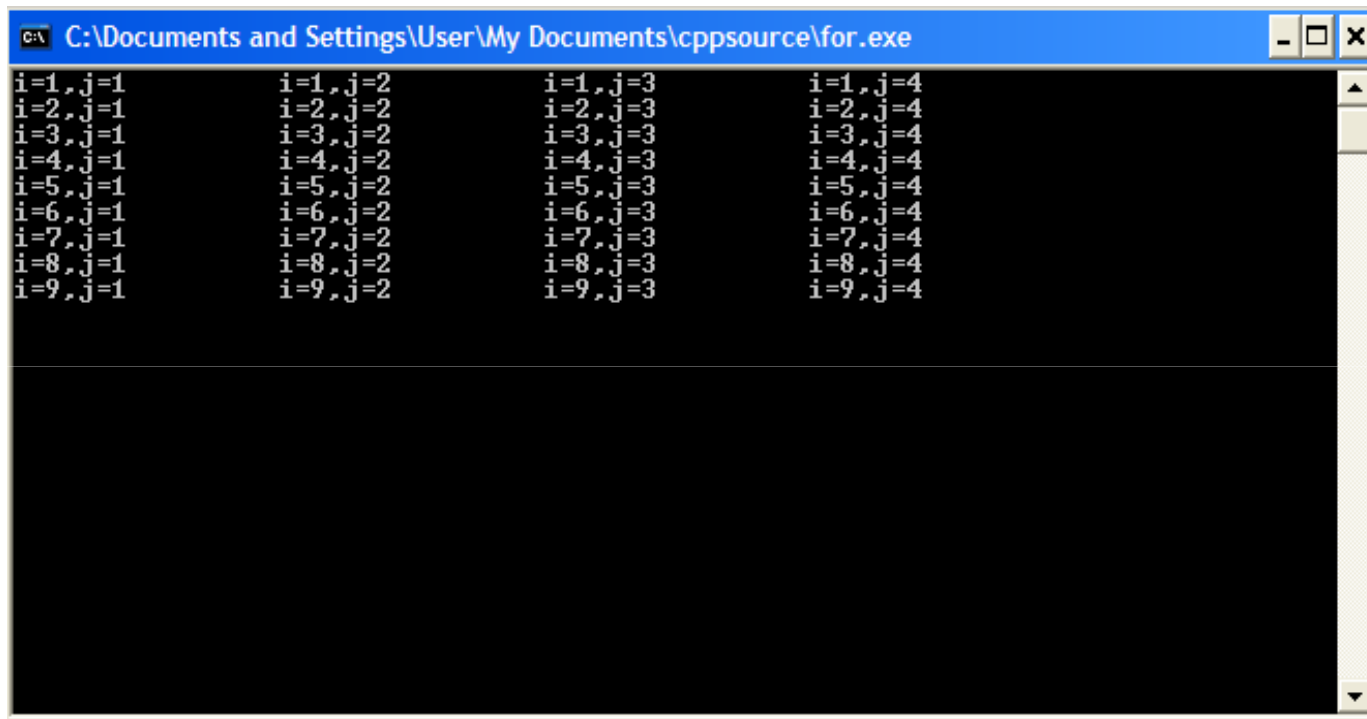
Flowchart (nested for)



Sample

```
#include <stdio.h>
#include <conio.h>
main() {
    int i,j;
    for (i=1; i < 10 ; i++) {
        for (j=1; j < 5 ; j++) {
            printf("i=%d,j=%d \t",i,j);
        }
        printf("\n");
    }
    getch();
}
```

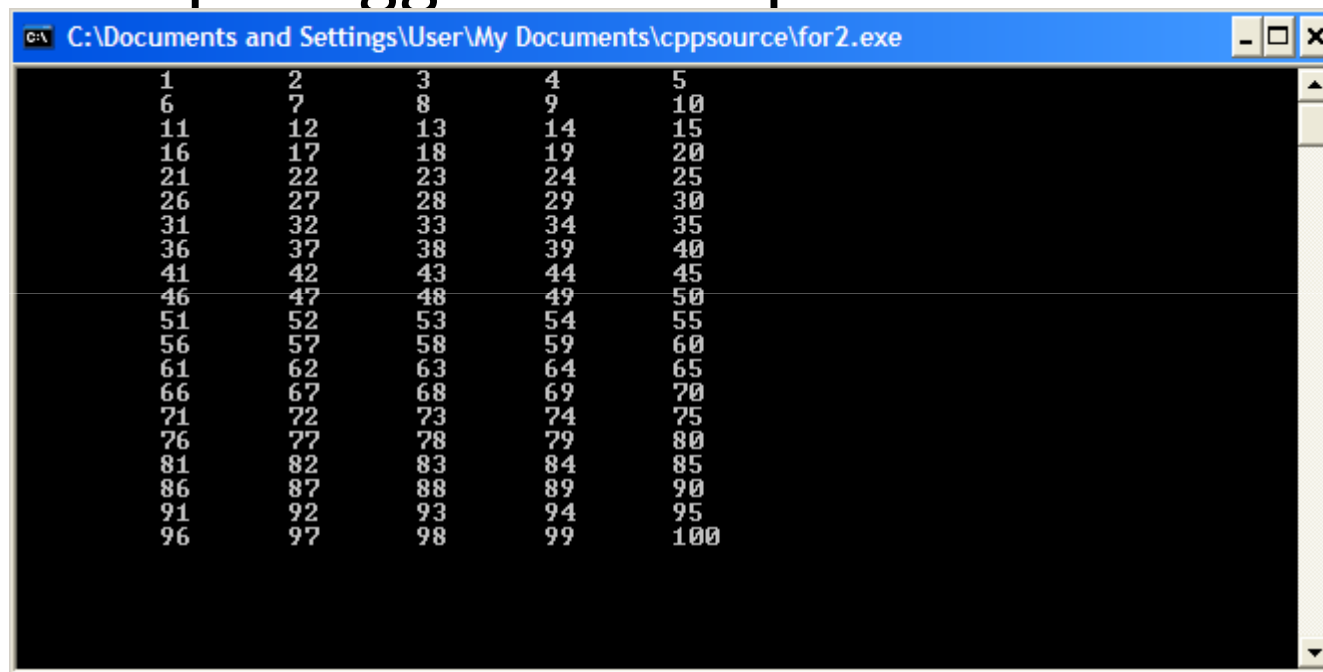
Output sample



```
C:\Documents and Settings\User\My Documents\cppsource\for.exe
i=1,j=1    i=1,j=2    i=1,j=3    i=1,j=4
i=2,j=1    i=2,j=2    i=2,j=3    i=2,j=4
i=3,j=1    i=3,j=2    i=3,j=3    i=3,j=4
i=4,j=1    i=4,j=2    i=4,j=3    i=4,j=4
i=5,j=1    i=5,j=2    i=5,j=3    i=5,j=4
i=6,j=1    i=6,j=2    i=6,j=3    i=6,j=4
i=7,j=1    i=7,j=2    i=7,j=3    i=7,j=4
i=8,j=1    i=8,j=2    i=8,j=3    i=8,j=4
i=9,j=1    i=9,j=2    i=9,j=3    i=9,j=4
```

Excercise

- Buat loop hingga menampilkan:



The screenshot shows a Windows command prompt window with the title bar "C:\Documents and Settings\User\My Documents\cppsource\for2.exe". The window contains a list of numbers from 1 to 100, arranged in five columns and 20 rows. The numbers are: 1, 2, 3, 4, 5; 6, 7, 8, 9, 10; 11, 12, 13, 14, 15; 16, 17, 18, 19, 20; 21, 22, 23, 24, 25; 26, 27, 28, 29, 30; 31, 32, 33, 34, 35; 36, 37, 38, 39, 40; 41, 42, 43, 44, 45; 46, 47, 48, 49, 50; 51, 52, 53, 54, 55; 56, 57, 58, 59, 60; 61, 62, 63, 64, 65; 66, 67, 68, 69, 70; 71, 72, 73, 74, 75; 76, 77, 78, 79, 80; 81, 82, 83, 84, 85; 86, 87, 88, 89, 90; 91, 92, 93, 94, 95; 96, 97, 98, 99, 100.

```
C:\Documents and Settings\User\My Documents\cppsource\for2.exe
1      2      3      4      5
6      7      8      9      10
11     12     13     14     15
16     17     18     19     20
21     22     23     24     25
26     27     28     29     30
31     32     33     34     35
36     37     38     39     40
41     42     43     44     45
46     47     48     49     50
51     52     53     54     55
56     57     58     59     60
61     62     63     64     65
66     67     68     69     70
71     72     73     74     75
76     77     78     79     80
81     82     83     84     85
86     87     88     89     90
91     92     93     94     95
96     97     98     99     100
```

Contoh implementasi

```
#include <stdio.h>
#include <conio.h>
main(){
char jawab;
float a,b,c;
do{
printf("Masukkan a:"); scanf("%f",&a);
printf("Masukkan b:"); scanf("%f",&b);
c = a + b;
printf("Nilai c : %f",c);
printf("\n\n");
printf("Menghitung lagi [y/t] :");
jawab = getch();
printf("\n\n");
if(jawab=='t'){
break;
}else{
continue;
}
}
```

Question ?