

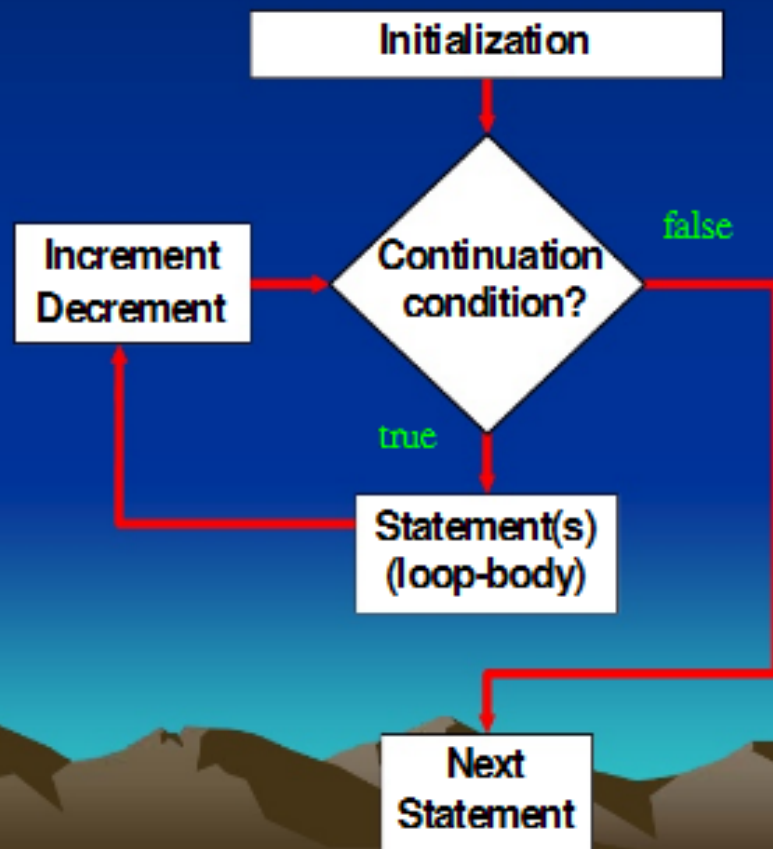
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# **Repetition Commands ( for )**

***Session 8***

# for Loop

```
for (initialization; condition; increment/decrement)  
{  
    //loop body;  
}
```



# Caution

Adding a semicolon at the end of the for clause before the loop body is a common mistake, as shown below:

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

Wrong



# Caution, cont.

Similarly, the following loop is also wrong:

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

In the case of the do loop, the following semicolon is needed to end the loop.

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

# Exercise 1

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```
1.  /* Mencari total dan rata-rata sejumlah bilangan menggunakan for */
2.  #include"stdio.h"
3.  #include"conio.h"
4.  void main()
5.  { clrscr();
6.    float r,i,x,t=0;int y;
7.    for(y=1;y<=3;y++)
8.      for(i=0;i<=2;i++)
9.        { printf("Entry bilangan %i : ",y);scanf("%f",&x);
10.         t=t+x;
11.         y=y+1;
12.        }
13.    printf("\n Total : %.2f",t);
14.    r=t/i;
15.    printf("\n Rata rata : %.2f",r);
16.    getch();
17. }
```

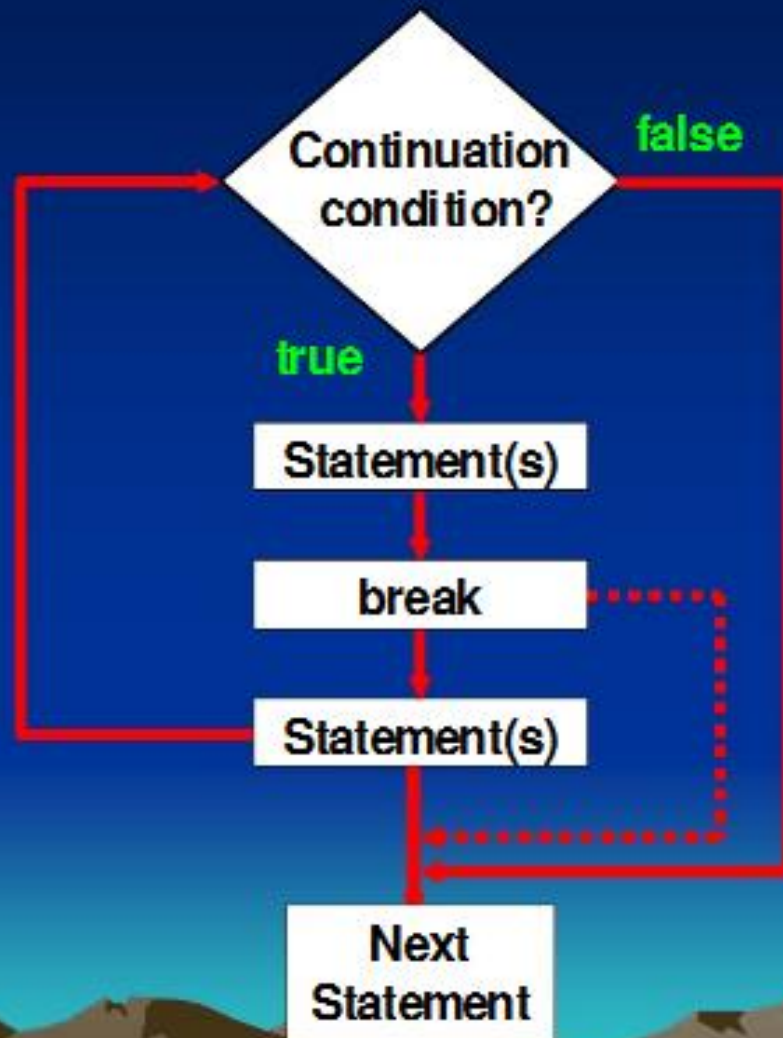
# Which Loop to Use?

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- ❖ The three forms of loop statements, while, do, and for, are expressively equivalent; that is, you can write a loop in any of these three forms. It is recommended that you use the one that is most intuitive and comfortable for you.
- ❖ In general, a for loop may be used if the number of repetitions is known, as, for example, when you need to print a message 100 times.
- ❖ A while loop may be used if the number of repetitions is not known, as in the case of reading the numbers until the input is 0.
- ❖ A do-while loop can be used to replace a while loop if the loop body has to be executed before testing the continuation condition.

# The break Keyword



# ***Example : break statement***

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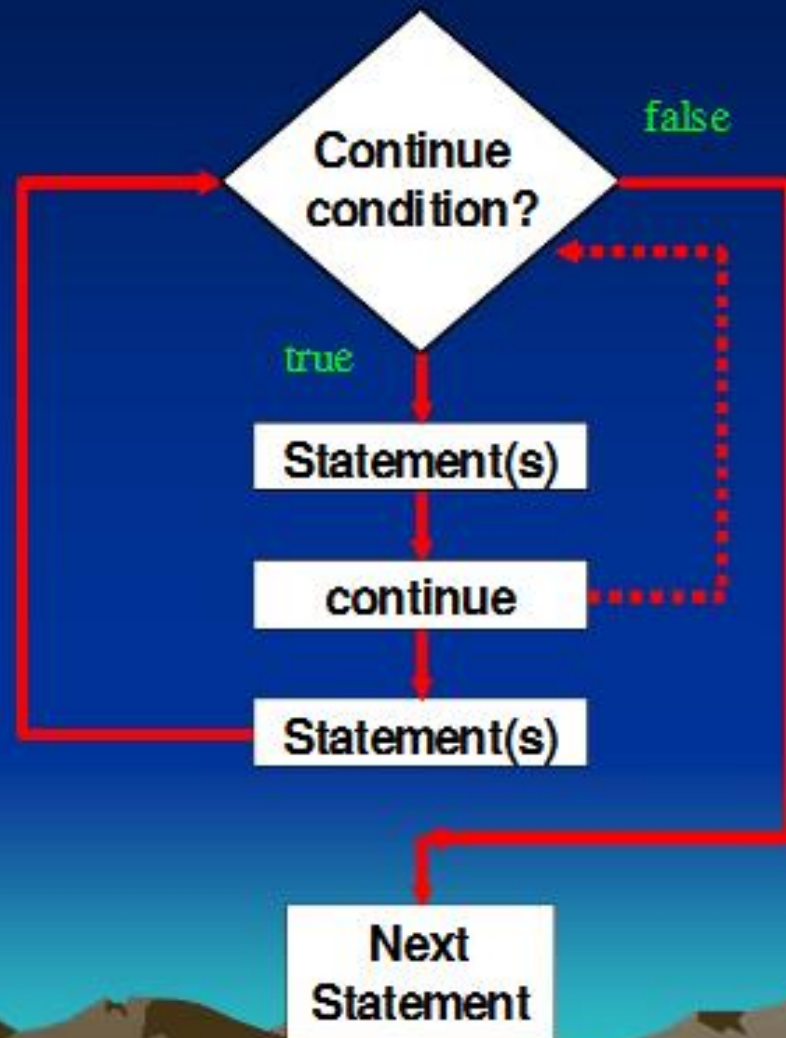
```
1. int a = 10;
2. while( a >= 0 )
3. {
4.     printf("\nValue of a = %d",a);
5.     a--;
6.     if(a==5)
7.         break;
8. }
```

Output:

```
Value of a = 10
Value of a = 9
Value of a = 8
Value of a = 7
Value of a = 6
```



# The `continue` Keyword



# ***Example : continue statement***

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```
1. int a = 6;
2. while( a >= 0 )
3. {
4.     a--;
5.     if(a==3)
6.         continue;
7.     printf("\nValue of a = %d",a);
8. }
```

Output:

```
Value of a = 5
Value of a = 4
Value of a = 2
Value of a = 1
Value of a = 0
```

# Task 7

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Write a program by using for to display this figure:

```
*****
```

```
*****
```

```
****
```

```
***
```

```
**
```

```
*
```



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