

Q. What is the loop?

Loop is used to execute a group of instructions or a block of code multiple times, without writing it repeatedly. The block of code is executed based on a certain condition. Loops are the control structures of a program. Using Loops in computer programs simplifies rather optimizes the process of coding.

Example: suppose if we want to print the good morning 100 times so better way we can write the 100 printf we can use the loop and we can execute the single loop 100 times.

Q. Explain The Types Of Loop?

There are two types of loop

1) Entry Control loop : entry control loop means the condition check at the beginning of the loop and if condition is satisfy then loop will be executed and if condition is not satisfy then loop will not execute means in entry control loop first check the condition and then decide loop will be execute or not .

There are two types of entry control loop in c language

I) While loop

II) For Loop

2) Exit Control loop: exit control loop means the condition check at the end of loop means in exit control loop first loop get executed and after that condition check means in exit control loop minimum single time loop will be executed.

In Exit control loop we have the only one loop name as do while loop.

Q. Explain the important steps in loop execution?

There are three important steps in loop

1) Initialization: initialization means we decide the starting point of loop

2) Condition: condition means decide how many times loop will be executed means decide the number of iteration in loop.

3) Increment or decrement: increment and decrement means decide the steps to increment and decrement in loop.

Q. explain the syntax of while loop?

```
initialization;  
while (condition)  
{ write here your logics  
  Increment or decrement;  
}
```

Example:

```
int i=1;  
while (i <=5)  
{ printf ("Good Morning\n");  
  i++;  
}
```

Q. Explain the syntax of for loop?

```
for (initialization; condition; increment or decrement)  
{ write here logics  
}  
e.g  
for (int i=1; i<=5; i++)  
{ printf ("good morning India");  
}
```

Q. Explain how many ways to write the loop?

First way :

```
int i=1;
for(;i<=5;i++)
{ printf("Good Morning\n");
}
```

Second way:

```
int i=1;
for(;i<=5;)
{
    printf("Good Morning\n");
    i++;
}
```

Third way

```
int i=1;
for(;i<=5;printf("good morning\n")){
    i++;
}
```

Fourth way

```
int i=1;
for(;i++<=5;printf("good morning\n"));
```

Q. what is the use of continue keyword?

continue keyword is used for skip the some execution steps of loop means if we want to skip the some logical steps in loop then we can use the continue keyword.

Syntax:

```
while (condition) { continue;
```

```
}
```

Example

```
int i;  
i=0;  
while (i<=10)  
{ ++i;  
  if (i%2==0)  
  { continue;  
  }  
  printf ("I = %d\n",i);  
}
```

Q. what is the use of break keyword?

break keyword is used for terminate the execution of loop means if we want to stop the execution of loop using some particular condition then we can use the break statement

Example of break statement

```
for(int i=1; i<=10;i++)  
{ if(i==5)  
  { break;  
  }  
}
```

Q. what is the do while and explain with syntax?

Do while loop is exit control loop and which execute minimum single time if your condition is false time and if your condition is true then it is execute as normal loop.

Syntax:

initialization;

```
do{  
    write here your logics  
} while (condition);
```

Example of do while loop

```
int i;  
i=5;  
do {  
    printf ("good morning\n");  
} while (i<1);
```

If we think about above code then initially i is 5 then do loop get executed and good morning i<1 this is the condition and first time is condition is false but loop will be execute minimum single time.

Q. What is the nested for loop and why use it?

Nested for loop means for within for called as nested for loop and it is used for create the matrix in the nested loop outer for loop work as row and inner work as column in table. In the nested for loop once outer loop will be executed then inner loop execute all times.

Example

```
for(int i=1; i<=3; i++)  
{ for(int j=1; j<=3; j++) {  
    printf("I=%d\tJ=%d\n",i,j);  
    }  
    printf("\n");  
}
```

MCQ Question

Q. what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main(){
    char j = 1 ;
    while (j< = 255)
    {
        printf ("%d\n",j);
        j = j + 1 ;
    }
    getch();
}
```

Q. what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main(){
    int j = 1 ;
    while (j <= 255) ;
    { printf ("%c%d\n",j,j);
    }
    getch();
}
```

Q.what will be the output of given code?

```
#include<stdio.h>
```

```
#include<conio.h>
void main(){

int j = 1 ;
while (j< = 255)
    printf ("%d\n", ++j);
    getch();
}
```

Q. what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main(){
int a;
for ( a = 1 ; a <= 32767; a++)
    printf ("%d", a);
    getch();
}
```

Q.what will be the output of given code?

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

Q. what will be the output of given code?

```
#include<stdio.h>
```

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

    getch();
}
```

Q. what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main()
{ int i = 1 ;
    for(; i++;)
        printf ("%d",i) ;
    getch();
}
```

Q. what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main()
{ int a = 5 ;
    do
    { printf ("%d\n", a) ;
      a=-1 ;
    }while(a>0) ;
}
```



```
    getch();  
}
```

Q. what will be the output of given code?

```
#include<stdio.h>  
#include<conio.h>  
void main()  
{  
    int a = 3, b = 4 ;  
    b%=3+4 ;  
    a*= a + 5 ;  
    printf( "b = %d a = %d", b,a) ;  
    getch();  
}
```

Q. what will be the output of given code?

```
#include<stdio.h>  
#include<conio.h>  
void main()  
{ int x = 3 ;  
    x*= x + 4 ;  
    printf ( B x = %d", x) ;  
    getch();  
}
```

Q. what will be the output of given code?

```
#include<stdio.h>  
#include<conio.h>  
void main()  
{ int x = 3, y, z ;
```

```
z=y=x ;
z *= y = x * x ;
printf ("x = %d y = %d z = %d", x, y, z ) ;
getch();
}
```

Q. what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main()
{  int x = 3, y, z ;
   z=y=x ;
   z *= y /= x',
   printf ("x = %d y = %d z = %d", x, y, z );
   getch();
}
```

Q.what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main()
{  int x = 1, y = 5 ;
   y * = x '
   printf ("x = %dy = %d", x,y) ;
   getch();
}
```

Q.what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
```

```
void main()
{ int x = 3, y, z;
  z=y=x ;
  z = y+=x=-z ;
  printf ("x = %dy = %dz = %d", x, y,z) ;
  getch();
}
```

Q. what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main()
{ int x = 5 ;
  x++;
  printf ("x = %d\n",x);
  ++x;
  printf ("x = %cf\n",x);
  getch();
}
```

Q. what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main()
{ int x = 3, z ;
  z = x++ +10;
  printf ("x = %d z = %d", x, z) ;
  getch ();
}
```

Q. what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main ()
{
    int x = 3, z ;
    z = ++x+ 10;
    printf ("x = %d\tZ= %d", x,z) ;
    getch ();
}
```

Q. what will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int x = 3, z ;
    z = x-111 ;
    printf ("x = %d z = %d", x,z) ;
    getch();
}
```

Q. What will be the output of given code?

```
#include<stdio.h>
#include<conio.h>
void main()
{ int x = 3, z ;
    z = x++ + ++x;
    printf ("x = %d z = %d", x,z);
}
```

```
    getch();  
}
```

Q.what will be the output of given code?

```
#include<stdio.h>  
#include<conio.h>  
void main()  
{  
    int i = 3,j ;  
    j = ++i*++i*++i;  
    printf ("%d",j);  
    getch();  
}
```

Q.what will be the output of given code?

```
#include<stdio.h>  
#include<conio.h>  
void main ()  
{  int x = 3, y = 3, z = 3 ;  
    z -= -x-- - --y;  
    printf ("X = %d\tY = %d\tZ=%d", x, y,z) ;  
    getch ();  
}
```

Q. what will be the output of given code?

```
#include<stdio.h>  
#include<conio.h>  
void main()  
{  
    int i ;
```

```
for(i = -1 ; i <= 10; i++)  
{ if(i<5)  
    continue;  
    else  
    break;  
    printf ("Gets printed only once!!");  
}  
getch();  
}
```