



GLOBAL SCHOOL

Affiliated to CBSE, New Delhi, Affiliation No. 830346

Subject: Computer science

Chapter - VII

Looping Control Structures (Answers)

Class: X

A. Fill in the blanks:

1. Three
2. Initial
3. Statements
4. Label
5. Exit control
6. Jump
7. For

B. State True or False:

1. False
2. False
3. True
4. True
5. False
6. True
7. True
8. False
9. False
10. True

C. Multiple Choice Questions:

1. (b) Looping
2. (c) **Nested**
3. (c) do while
4. (b) for
5. (a) Step value
6. (b) break
7. (a) Loop
8. (c) Jumping
9. (a) Continue

D. Answer in one word or sentence:

1. Double quotes of format specification in printf statement are missing.

2. In for statement, semicolon (;) after a<10 is missing. And wrong format specification is given in printf statement.
3. printf statement is missing.
4. Increment step is missing.

E. Answer the following:

1. Looping control structure has a condition and a block of statements. Till the time the specified condition remains true the compiler keeps executing the loop i.e., the statements are written in its body.
2. The for loop is used to repeat a particular task finite number of times. It executes a set of statements only after the condition evaluates to true.
3. The while loop tests the condition before executing the loop body. When the condition becomes false, the control comes out of the loop. On the other hand, do while loop first executes the block of statements and then checks the condition. The body of the loop gets executed at least once even if the condition is found false.
4. A loop written inside another loop is called a nested loop. The inner loop gets executed first and then the outer loop executes. The following example explains the use of nested loop: (program 8 in page no. 70)
5. Break statement is used to terminate the execution of the current loop and the control comes out of the loop, whereas the continue statement skips the next statement and takes the control to the header of the loop.
6. The goto statement is used to change the normal sequence of program execution by transferring the control to some other part of the program unconditionally.

LAB ACTIVITY

1) Write a program to print all prime numbers from 1 to 50.

```
#include<stdio.h>

#include<conio.h>

void main()
{
    clrscr();
    int n,d,p;
    printf("Prime numbers are ");
    for(n=2;n<=50;n++)
    {
        for(d=2;d<n;d++)
        {
            if(n%d==0)
            {
                p=0;
                break;
            }
        }
        if(p==0)
            printf("%d ",n);
    }
}
```

```

p=1;
if(p)
printf("\t%d",n);
}
getch();

}

```

2. Write a program to find the sum of the following series:

$1 + 1/2 + 1/3 + 1/4 + \dots + 1/10$.

```

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

void main()
{
float i= 10, s = 0.0;
for (i=1;i<=4; i++)
s= s + 1/i;
printf("Sum is %f", s);
getch();
}

```

3. Write a program using while loop to accept a number and print its reverse.

```

#include<stdio.h>
#include<conio.h>
void main()
{
int n;
clrscr();
printf("Enter the number \n");
scanf("%d",&n);
printf(" Reverse of the number is ");
while(n>0)
int m=n%10;
printf("%d",m);
n=n/10;
}
getch();
}

```

4. Write a program to print all the odd numbers between 1 and 100.

```

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

```

```

void main()

{
int i;
clrscr();
for(i=1;i<=100;i=i+2)
{
printf("\t %d",i);
}
getch();
}

```

5. Write a program to using while loop to generate the first 10 natural numbers and its sum.

```

#include<stdio.h>
#include<conio.h>
void main()
{
int n,sum=0;

n=1;

printf("Natural numbers are \n");

clrscr();

while(n<=10)

{
printf("\n%d",n);
sum=sum+n;
n++;
}

printf("\n Sum of 10 natural numbers = %d",sum);

getch();
}

```

6. Write a program to accept two numbers and find the HCF of the two numbers.

```

#include <stdio.h>
#include<conio.h>
void main()
{
int i, num1, num2, min, hcf=1;
printf("Enter any two numbers to find HCF: ");
scanf("%d %d", &num1, &num2);
min = (num1<num2) ? num1: num2;
for(i=1;i<=min; i++)
{

```

```

if(num1%i=0 && num2%i==0)
{
hcf = i;
}
}
printf("HCF of %d and %d = %d\n", num1, num2, hcf);
getch();
}

```

7. Generate the following pattern:

```

a)
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
int i,j,n;
for(i=1;i<=6;i++)
{
printf("\n");
for(j=1;j<=4;j++)
printf("*");
getch();
}

```

```

b)
#include<stdio.h>
#include<conio.h>
void main()
int a=1, i;
clrscr();
for(i=0;i<=4;i++)
{

if(a==1)
printf("\n %d",a);
a=11;
if(a<=14641)
{
printf("\n %d", a); a=a*11;
}
getch();
}

```

```
c)
#include<stdio.h>
#include<conio.h>
void main()
{
int i,j,n;
clrscr();
for(i=1;i<=5;i++)
printf("\n");
for(j=1;j<=(2*i-1);j++)
printf("*");
getch();
}
```