

OBJECTIVES (MCQ'S) OF CHAPTER-12 IN ALL PUNJAB BOARDS 2011-2021

1. A loop within a loop is called: (4 Times)
(A) nested loop (B) inner loop (C) outer loop (D) none of these
2. This statement causes a loop to terminate early: (2 Times)
(A) exit (B) terminate (C) break (D) all of these
3. What is the final value of x after executing the following code?
For (int x=0;x<5;x++)
(A) 0 (B) 4 (C) 5 (D) 6
4. One execution of loop is known as: (7 Times)
(A) iteration (B) cycle (C) circle (D) duration
5. Which of the following loop is available in C-language?
(A) while-wend (B) for-next (C) sequence (D) do-while
6. Which loop structure always executes at least once? (4 Times)
(A) do-while (B) for (C) while (D) sequence
7. While loop is also called: (4 Times)
(A) counter loop (B) conditional loop (C) wend loop (D) ineration
8. A special value that makes the end of a list of input data is called: (2 Times)
(A) terminal value (B) sentinel value (C) loop control value (D) input value
9. Which statement is used to move the control to the start of loop body:
(A) continue (B) break (C) switch (D) default
10. Semi Colon is placed at the end of condition in (4 Times)
(A) switch (B) for loop (C) while loop (D) do-while-loop
11. A loop counter can be defined as :
(A) The final value of a loop (B) A variable that counts loop iterations
(C) The initial value of a loop (D) The step value of a loop
12. If you want a user to enter exactly 20 values, which loop would be the best to use?
(A) while (B) Do-while (C) infinite (D) FOR
13. Which is a loop statement? (4 Times)
(A) if (B) if-else (C) switch (D) for
14. The body of loop comes before the next condition in:
(A) Do-while (B) While (C) for (D) all of these
15. Which of the following is not a loop structure?
(A) For (B) While (C) Switch (D) Do-while
16. A loop that never ends is called:
(A) multiple loop (B) finite loop (C) infinite loop (D) nested loop
17. Which of the following loop is called counter loop?
(A) for (B) while (C) do-while (D) if
18. How many types of loops structure are available in C? (2 Times)
(A) 4 (B) 3 (C) 2 (D) 6

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C language

19. In while loop, the loop control variable is always initialized? (12 times)
(a) outside the program (b) inside the loop body
(c) after loop ends (d) outside the body of loop
20. This statement cause the loop to terminate early: (14 times)
(a) Break (b) Terminate (c) Exit (d) End
21. A loop which never ends is called:- (2 Times)
(a) Running loop (b) Continuous loop (c) Nested loop (d) Infinite loop

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22. In which loop the condition comes after the body of the loop: (2 Times)
(a) while loop (b) for loop (c) Do-while loop (d) nested loop

23. In which loop, statement terminator is a part of its syntax:
 (a) for (b) while (c) do-while (d) for-each
24. What is the final values of l after executing the code: for (int l=1;l<5;l+=2)
 (a) 7 (b) 5 (c) 6 (d) 9
25. What will be the value of x after executing the following code?
 for (x=1;x<7;x++)
 printf("%d",x)
 (a) 5 (b) 7 (c) 8 (d) 1

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26. In a 'for' statement, this expression is executed only once.
 (a) test (b) initialization (c) validation (d) increment/decrement
27. What is the value of x after executing the code: for (x = 1; x <= 10; x++)
 (a) 9 (b) 10 (c) 11 (d) 12
28. This is a control structure that causes a statement or group of statements to repeat.
 (a) Decision statement (b) Sequential (c) Loop (d) Logical

ANSWERS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	C	C	A	D	A	B	A	A	D	B	D	D	A
15	16	17	18	19	20	21	22	23	24	25	26	27	28
C	C	A	B	D	A	D	C	C	B	B	B	B	C

**SHORT QUESTIONS OF CHAPTER-12
IN ALL PUNJAB BOARDS 2011-2021**

1. What is for loop? Write its Syntax with example. (3 Times)

Ans: For Loop

For loop executes one or more statements for a specified number of times. This loop is also called counter-controlled loop. It is the most flexible loop. All the contents are written in single line in this loop. That is why the most programmers use this loop in programs.

Syntax

For (initialization; condition; increment/decrement)

```
{
Statement 1;
Statement 2;
:
Statement N;
}
```

2. Differentiate between Counter and Conditional loop.

Ans:

Counter loop	Conditional loop
In counter loop, statements are executed to a fix no. of a value. That value is known as counter value. Suppose a statement is executed for 5 times. 5 is a counter value.	In conditional loop, statements execution depends upon a specific condition. Suppose a loop will terminate if user enters -1.

3. Trace the output of the following:

```
void main( )
{
Int a, s;
s= 0;
```

```

for (a=1; a<=50;a+=3)
s = s +a;
printf("Sum = %d",s);
getch ( );
}

```

Ans: 52

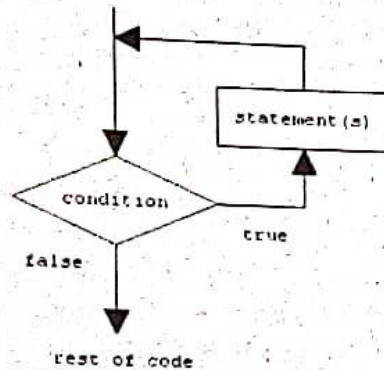
4. Define sentinel control loop.

Ans: A type of loop in which execution of loop is depends on the sentinel value. This type of loop depends on special value known as sentinel value. Sentinel value indicates that the loop should continue or terminate. For example, a loop may execute while the value of a variable is not -1. Here -1 is the sentinel value that is used to terminate loop.

5. Draw a flowchart of while loop.

(2 Times)

Ans:



6. What is output of the following code:

```

void main (void)
{

```

```

    Int n= 1;

```

```

    While (n< =5)

```

```

    {

```

```

        Printf("Pakistan");

```

```

        n=1+1;

```

```

    }

```

```

    getch ( );

```

```

}

```

Ans: Pakistan, Pakistan, Pakistan, Pakistan, Pakistan.

7. Define "do-while" loop

(2 Times)

Ans: The do-while is an iterative control in C language. It executes one or more statements while the given condition is true. In this loop, the condition comes after the body of the loop. The loop is important in a situation where a statement must be executed at least once.

8. Define go to statement.

Ans: The go to statement is used to perform an unconditional transfer of control to a named label. The label must be in the same function. A label is meaningful only to a go to statement. The general form of go to statement is as follows:

```

go to label;

```

9. Define nested loop.

(2 Times)

Ans: A loop within a loop is called nested loop. In nested loops, the inner loop is executed completely with each change in the value of counter variable of outer loop. Any loop can be used as inner loop of another loop.

2016

10. Trace the output of the following code:

```

void main ( )

```

```

{
  int x, y= 5;
  for (x=0;x<3;x++)
  if (y>=5)
  printf ("%d",x);
}

```

Ans: 012 mean 0 1 2

11. Trace error

```

int x=5;
int y
y=x+3
printf("%d",y);

```

Ans: 2 errors.

1. int y should terminate with semicolon.
2. Y=x+3 should also terminate with semicolon.

12. Trace error:

```

#include<STDIO.H>
VOID Main ();
{
  printf("Pakistan");
}

```

Ans: 3 errors

1. STDIO.H should be in small letters i.e. stdio.h
2. VOID Main should be like this void main.
3. void main() should not terminated by semicolon.

13. Predict the output of the following piece of code:

```

int =1;
while (i<=5)
{
  Printf ("Pakistan");
  I++;
}

```

Ans: Pakistan Pakistan Pakistan Pakistan Pakistan.

14. Convert the following loop in do-while loop.

```

for (i=3; i <39;i+=-6)
{
  Printf("%d\n",i)
}

```

Ans: int i=3;

```

do
{
  Printf("%d\n",i)
  i+=-6;
}
while(i<39);

```

15. Write the syntax of while loop, both for single statement and for multiple statement.

Ans: For single statement:

```

While (condition)
Statement;

```

For multiple statements:

```

While (condition)
{
  Statement 1;
}

```

Statement 2;

Statement N;
}

16. Predict the output from the following code

```
int n;
clrscr ( );
for (n=5;n>=1; n- -)
printf("%d",n);
getch ( );
```

Ans: 5 4 3 2 1

17. Write output

```
int x=5, y=3;
```

(2 Times)

```
do
{
x=x*2;
y=y+2;
}
while (y<7);
printf("%d",x);
```

Ans: 20

18. Write down the syntax of do-while loop.

Ans: do

```
{
statements;
increment/decrement;
}
while(condition);
```

19. What is the output of following code?

```
int x=10;
for(x=8;x>=1;x--)
```

```
printf("%d\n",x)
```

Ans: 8

7

6

5

4

3

2

1

20. Write the output of following Code

```
int x;
for (x=0; x>0; x++)
printf ("%d\n",x);
```

Ans: This loop will show nothing because x=0 and condition will true when x>0. Condition is false.

21. Convert following loop code into while loop code: (2 Times)

```
for (i=10;i>0; i--)
```

```
{
```

```
printf("i=%d", i);
}
```

Ans:

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

22. Trace output

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

Ans: Pakistan
Pakistan
Pakistan
Pakistan
Pakistan.

23. Convert the following code into while loop:

(2 Times)

```
for (int i=1; i<10; i++)
{
printf("/nPakistan");
}
```

Ans:

```
int i=1;
while(i<10)
{
printf("/nPakistan");
i++;
}
```

24. Trace the output of the following:

```
int k= 0;
while (k < =5)
{
printf ("OK");
k++;
}
```

Ans: okokokokok

25.

```
for (i=1,i<=5;i++)
printf("/n%d", i);
```

 Re-write the above program segment using while loop.

Ans:

```
int i=1;
while (i<=5)
{
printf ("/n%d",i);
i++;
}
```

2017

!6. Two uses and advantages of loop.

- i) It is time saving. There is no need to repeat statements again and again.
- ii) Program length becomes shorter by using loop.

27. Convert into do-while loop?

```
for(int n=1;n<=10;n++)
{
    printf("%d",n);
}
```

Ans.

```
int n = 1;
do
{
    printf("%d",n);
    n++;
}
while (n <= 10);
```

28. Why sentinel value is used in loop?

(2 Times)

Ans. Sentinel value is used to control the iterations of loop. If we will not use sentinel value then loop iterations will be infinite.

29. Define while loop?

Ans. While loop is used to repeat a statement or block of statement until given condition is true.

Syntax:

```
initialization;
while (condition)
{
    statement;
    /
    increment/decrement;
}
```

30. Differentiate between break and continue statement in loops?

Ans. **Break** statement is used to terminate the execution of code. Where as break is used, that block of code terminate it execution and control comes out of that block.

Continue is used to move the control the beginning of loop body. Until condition is true.

31. What is continue statement?

(2 Times)

Ans. Continue statement is used to move the control to the beginning of loop until condition is true.

32. Convert into do while

```
for (i=1; i<=5; i++)
    printf("\n%d",i);
```

Ans.

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

33. Convert following code into while loop?

```
for (int j= 1; j<=4;j++)
{
printf("%d", j);
}
```

Ans.

```
int j = 1;
while(j <= 4)
{
printf("%d", j);
j++;
}
```

2018

34. Define post-test loop.

(2 Times)

Ans. It is a type of loop in which the condition is checked after executing the body of the loop. It means that the statement in the loop will be executed at least once.

35. Determine the output.

```
int i=1;
while (i<10)
{
printf("%d",i++);
}
```

Ans. 1 2 3 4 5 6 7 8 9

36. Convert the following loop into do while loop.

```
int x;
for (x=0;x<=10;x++)
printf ("%d" ,x%2);
```

Ans.

```
{ int x;
x=0;
do
{
printf ("%d" ,x%2);
x++;
}
while (x<=10);
}
```

(2 Times)

37. Write the output of the following code:

```
int l,j=3;
for (i=1; i<5; i++)
printf("\n%d%d" ,i,j);
```

Ans. 13
23
33
43
53

38. Convert the following code in do-while loop:

```
for (i=1;i<5;i++)
printf("\n%d",i);
```

Ans.

```
int i=1;
do
{
printf ("\n%d",i);
i++
}
while (i<5);
```

39. What is meant by loop?

Ans. A statement or number of statements that are executed repeatedly is known as a loop. They are used to access a sequence of values.

40. Determine the output.

```
int x=0;
for (x=1;x<15;x++)
{
printf("%d\n",x*x);
x++;
}
```

Ans.

```
1
4
25
45
81
121
169
225
```

41. Convert the following for loop into while loop *+//++

```
int a=0;
for (a=10;a>=1;a-)
{
printf("%d",a);
printf("\n");
a=2;
}
```

42. Define sentinel values.

Ans. A special value used to terminate a sentinel controlled loop is called sentinel value. This value is used in loops when the number of repetition is not predefined.

43. Find output from following code.

```
int l,j=0;
for(i=1;i<5;++i)
{printf("%d%d",l,i);}
```

Ans. 10203040.

44. Convert while loop into do while loop.

```
int i=1;
while (i<15)
{printf("n",i)
i=i+1;}
```

Ans.

```
int i=1;
do
{
printf("n",i)
```

```
l=i+1;
```

```
}
```

```
while (l<15);
```

45. Convert the While Loop into do-while loop;

```
void main ()
```

```
{int a=5;
```

```
If (a%2==0)
```

```
printf("Even");
```

```
else
```

```
printf("odd");
```

```
}
```

Ans. odd

46. Write the output of the following code

```
void main()
```

```
{int l;
```

```
for(i=1;i<=3;i++)
```

```
print f ("%d",i*i);
```

```
}
```

Ans. 1

4

9

47. Convert the While Loop into do-while loop:

```
int i=1;
```

```
while (i<=15)
```

```
{printf ("Hello");
```

```
i++;
```

```
}
```

Ans. { int i=1;

```
do
```

```
{printf("Hello");
```

```
i++;
```

```
}
```

```
while (i<=15);
```

```
}
```

48. Define infinite loop.

(2 Times)

Ans. A loop in which the ending condition never occurs is called infinite loop. It repeats forever until the user intervenes to stop the loop.

49. Write the output of the following code.

```
int m=5;
```

```
while (m<10)
```

```
{
```

```
printf("%d\n",m);
```

```
m=m+2;
```

```
}
```

Ans. 5

7

9

50. Convert the following code into while loop.

```
int n=5, f=1;
```

```
for (i=1;i<n;i++)
```

```
f=f*i;
```

Ans. {

```
int n=5, f=1;
```

```
int i=1
do
printf("%d", f);
i++;
f=f*i;
}
while (i<=n);
```

51. What is counter controlled loop? (4 Times)

Ans. The counter controlled loop depends on the value of a variable known as counter variable. The value of counter variable is incremented or decremented each time the body of loop executes. The loop terminates when value of counter variable reaches a particular value.

52. Write output of the following code.

```
int x;
for (x=0;x<5;x++)
printf("%d", x);
```

Ans. 0 1 2 3 4

53. Define For-loop.

Ans. For loop executes one or more statements for a specified number of times. This loop is also called counter-controlled loop. It is the most flexible loop. That is why the most programmers use this loop in programs.

2019

54. Convert following while loop into for loop:

```
int c = 0;
while (c<5)
{
printf ("%d\n", c);
c++;
}
```

Ans: for (int c = 0; c<5; c++)
printf ("%d\n", c);

55. Determine the output:
for (a = 5; a<=5; a=a+5)
printf ("%d", a);

Ans: 5

56. Convert this piece of code to "do-while" loop:

```
for (i = 1; i<=10; i++)
printf ("loop\n");
```

Ans: int i = 1;
do {
printf ("loop\n");
i=i+1;
}

57. What is the output of following piece of code?

```
for (k = 0; k>=0; k++)
printf ("%d\n", k);
```

Ans: 0
1
2..... Infinite loop

58. Determine the output:

```
int n = 1;
do {
```

```
printf ("%d\n", n);
n++;
}
```

Ans:

```
while (n<=5);
```

```
1
2
3
4
5
```

59.

Find the error:

```
void main ()
{
for (int n=1; n<=5, n++)
printf ("%d", n);
}
```

Ans:

- The word "Far" in the third line must replace with "for"
- The semicolon must write in third line after condition instead of comma

60.

What will be the output of the following?

```
int c= 1;
do {
printf ("%d", c);
}
```

Ans:

```
while (c++ <=4);
```

```
1 2 3 4 5
```

61.

Convert the following code in "while" loop:

```
for (int i = 3; i<=9; i+=3)
printf ("\t %d", i);
```

Ans:

```
int i = 3;
while (i<=9)
{
printf ("\t %d", i);
i=i+3;
}
```

62.

What will be the output of the following?

```
char c = 'A';
do
{
printf ("%c", c);
c=c+2;
}
```

Ans:

```
while (c<= 'I');
```

LONG QUESTIONS OF CHAPTER-12 IN ALL PUNJAB BOARDS 2011-2021

- What is nested loop? Give its syntax. Explain its working with an example. (2 Times)
- Define "for" loop. Write its syntax, Draw flow chart and explain its working with the help of example. (3 Times)
- What is do-while loop? Explain its working with example.
- Write a program that display first five numbers and their sum using while loop.
- Write a program which prints natural numbers from 1 to 100.