

1. Which of the following is the correct syntax for loop in C?

- A. for (conditions; initialization; increment/decrement)
- B. for (initialization; condition; increment / decrement)
- C. for [initialization; Condition; increment /decrement]
- D. for (initialization; Conditions; increment/decrement)

2. What will be the output of the following C code snippet?

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

- A. 0123
- B. 0123 45
- C. 01234
- D. 1234

3. Which type of loop in C is guaranteed to execute its body at least once, regardless of the condition.

- A. nested loop
- B. do-while loop
- C. while loop
- D. for loop

4. What is the purpose of the break statements inside a loop in C?

- A. To restart the loop from the beginning
- B. To immediately terminate the current loop and resume execution at the statement immediately following the loop
- C. To skip the rest of the current iteration and move to the next iteration
- D. To terminate the program execution.

5. How many times will the following loop body execute?

```
for (int i=1, i<=10; i+=3){ //loop body  
    3
```

- A. 3 times
- B. 4 times
- C. 10 times
- D. 13 times

6. What is the primary difference between a while loop and a do-while loop?
- A. While loop checks the condition at the start, and a do-while loop?
 - B. A while loop checks the loop variable to be initialized, but a do-while loop does not.
 - C. A do-while loop cannot contain break or continue statements, but a while loop can.
 - D. A while loop is used for definite iteration, and a do-while loop is for indefinite iteration.
7. Which of the following creates an infinite loop in C?
- for (i=0; i<10; i++);
 - do{...}while (i<0);
 - while (0)
 - for (;;)
8. In a nested for loop structure, which loop completes its entire set of iterations for every single iteration of the outer loop?
- Both loops run simultaneously.
 - The main loop
 - The inner loop
 - The outer loop
9. What is the final value of count after the following code snippet executes?
- ```
int count = 0;
int i = 0;
do{
 if (i == 3) continue;
 count++;
 i++;
} while (i < 5);
```
- Infinite Loop
  - 5
  - 4
  - 3

10. Which of the following is equivalent to a while loop?
- A. A for loop with missing initialization and increment/decrement parts.
  - B. The goto statement with a label before the condition
  - C. A do-while loop with an initial check before the loop.
  - D. A for loop with a constant non-zero condition.
11. What will be printed when the following code executes?
- ```
for (int i=0; i<5; i++) {  
    if (i==3) break;  
    printf ("%d", i);  
}
```
- A. 0123
 - B. 0124
 - C. 012
 - D. 01234
12. Which of the following correctly initializes a loop variable in a for loop?
- A. for (int i=1; int j=10; i<=10; i++)
 - B. for (i=1; i<=10; i++, j++)
 - C. for (int i=1, j=10; i<=10; i++)
 - D. int i; for(i=1; i<=10 ; i++).
13. How many times will the printf statement execute in the following nested loops?
- ```
for (int i=0; i<2; i++) {
 for (int j=0; j<3; j++) {
 printf ("*");
 }
}
```
- A. 3 times
  - B. 6 times
  - C. 5 times
  - D. 2 times

## Applications of C

14. What is the purpose of the continue statements inside a loop?

A. To exit the entire loop.

B. To force the condition to become false and terminate the loop gracefully.

C. To skip the current loop iteration's remaining statements and proceed to the next iteration (checking the condition).

D. To pause the program execution for a short duration.

15. In a for loop, which part executes only once before the loop begins?

A. Condition

B. Initialization

C. Increment/Decrement

D. Loop Body

16. What is the output of the following C code snippet?

```
int i=5;
while (i-->0){
 printf("%d", i);
}
```

A. 43210

B. 54321

C. 01234

D. 543210

17. Which of the following statements about the do-while loop is TRUE?

A. The condition is evaluated before the loop body is executed.

B. The loop body is executed zero or more times.

C. It is preferred over the while loop when the number of iterations is known in advance.

D. It requires a semicolon (;) after the while (condition) part.

18. What is the output of this code?

```
int i=0;
while (i++<3){
 printf("%d", i);
}
```

A. 12

B. 0123

C. 123

D. 012

D.3

19. Which Loop is generally the most appropriate choice when you know in advance exactly how many times you need to repeat a task.

- A. for Loop
- B. while Loop
- C. goto Loop
- D. do-while Loop.

20. A Loop that executes indefinitely is called a/an:

- A. Controlled Loop
- B. Infinite Loop
- C. Pre-test Loop
- D. Nested Loop.