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17/sci/1007

Computer science

CSC 312

Assignment

Explain Loops & Switch scanner.

Answer

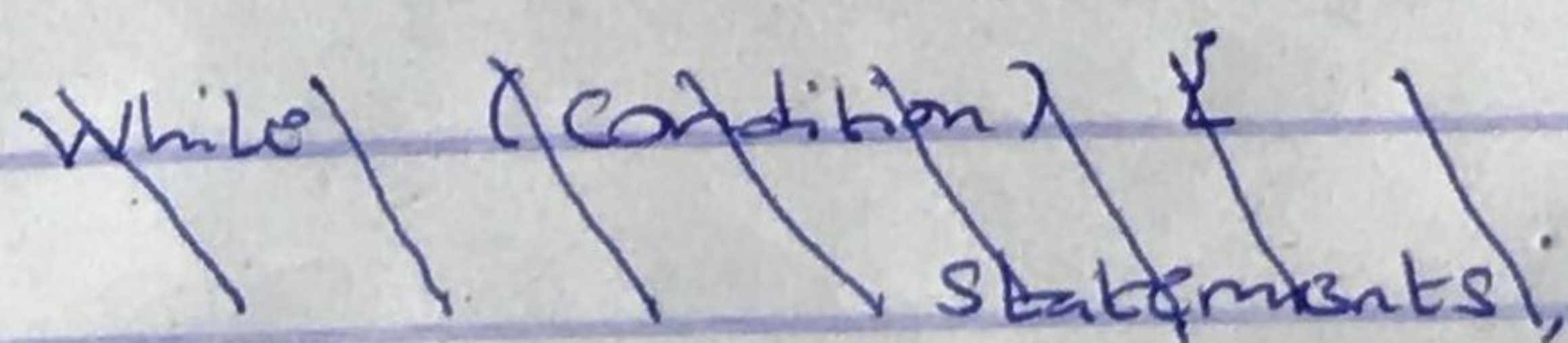
→ Loops: In computer science, a loop is a programming structure that repeats a sequence of instruction until a specific condition is met. Programmers use loops to cycle through values, add sum of numbers, repeats function, and many other things. Loops are supported by all modern programming language, though their implementation and syntax may differ.

Loops can also mean to execute the sequence of statement many times until the stated condition becomes false.

* Types of Loops:

i. While Loop

A while loop is the most straightforward looping structure. The basic format of while loop is as follow:



#include <stdio.h>	1
#include <conio.h>	2
int main ()	3
{	4
int num = 1;	5
// initializing the variable	6
while (num <= 10)	7
// while loop with condition	8
{	9
printf ("%d\n", num);	10
num++;	
// incrementing operation	
}	
return 0;	
}	

ii Do-while loop

A do-while loop is similar to the while loop except that the condition is always executed after the body of a loop. It is also called an exit-controlled loop.

iii For loop

A for loop is a more efficient loop structure in 'C' programming. The for loop statement defines the start and end point as well as the increment for each iteration.

Here is a simple for loop;

```
#include <stdio.h>
int main()
{
    int number;
    for (number = 1; number <= 10;
        number++) // for loop to
        print 1-10 numbers
    {
        printf ("%d\n", number);
        // to print the number
    }
    return 0;
}
```

Output



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

→ Switch scanner

It is a setting available in certain software that enable a scan box to move across a series of on-screen items (it will highlight and/or provide an auditory prompt for each item).