JECRC Foundation

JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE

JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE

Year & Semester - B.Tech I year (I Semester)

Subject - Computer Programming Lab ,Code – 1FY3-24

Presented by - Ms. Abhilasha

Department - Computer Science (First Year)

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VISION OF INSTITUTE

To become a renowned centre of outcome based learning, and work towards academic, professional, cultural and social enrichment of the lives of individuals and communities.

MISSION OF INSTITUTE

❖**Focus on evaluation of learning outcomes and motivate students to inculcate research aptitude by project based learning.**

❖**Identify, based on informed perception of Indian, regional and global needs, the areas of focus and provide platform to gain knowledge and solutions.**

❖**Offer opportunities for interaction between academia and industry.**

❖**Develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders can emerge in a range of professions .**

Computer Programming Lab :Course Outcomes

Upon successful completion of this course students will be able to:

CO1: Identify and analyze the input /output operation, decision making statements and looping.

CO2: Analyze and implement arrays, functions, pointers and dynamic memory allocation.

CO3: Apply structure, union and data handling through files in 'C' Programming Language.

Syllabus of Computer Programming Lab

RAJASTHAN TECHNICAL UNIVERSITY, KOTA

I & II Semester
Common to all branches of UG Engineering & Technology

1FY3-24/ 2FY3-24: Computer Programming Lab

Credit: 1.5
0L+0T+3P

Max. Marks: 75 (IA:45, ETE:30)

1.	To learn about the C Library, Preprocessor directive, Input-output statement.
2.	Programs to learn data type, variables, If-else statement
3.	Programs to understand nested if-else statement and switch statement
4.	Programs to learn iterative statements like while and do-while loops
5.	Programs to understand for loops for iterative statements
6.	Programs to learn about array and string operations
7.	Programs to understand sorting and searching using array
8.	Programs to learn functions and recursive functions
9.	Programs to understand Structure and Union operation
10.	Programs to learn Pointer operations
11.	Programs to understand File handling operations
12.	Programs to input data through Command line argument

Introduction of while loop

while loop in C

A while loop is a control flow statement that allows code to be executed repeatedly based on a given Boolean condition. The while loop can be thought of as a repeating if statement.

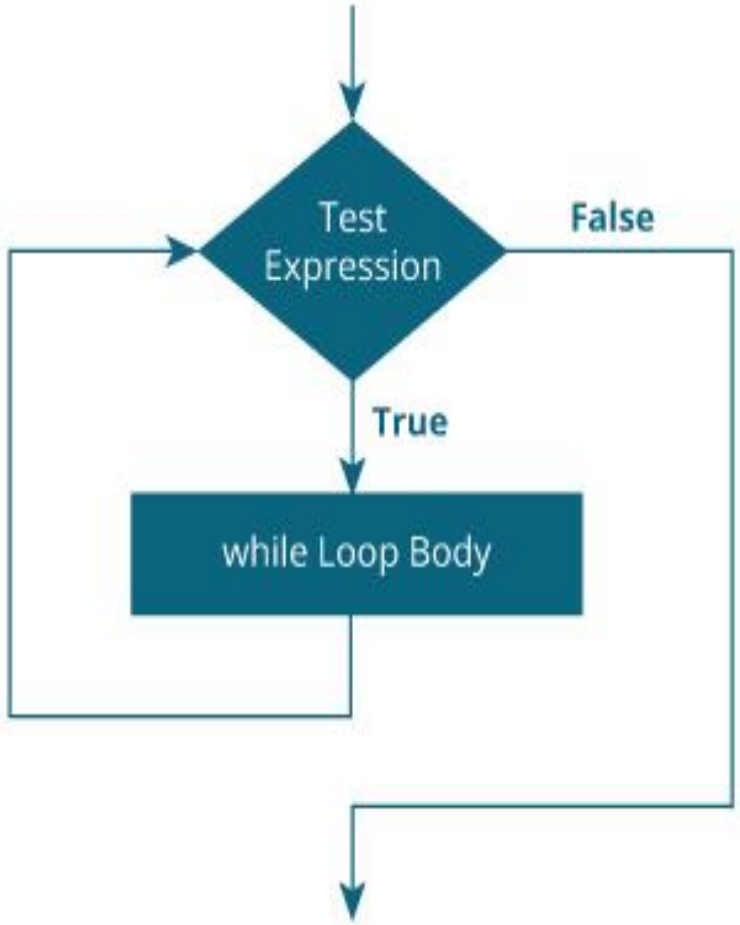
The syntax of the while loop is:

```
while (testExpression)
{
// statements inside the body of the loop
 }
```

Flowchart of while loop

How while loop works?

1. The while loop evaluates the test expression inside the parenthesis ().
2. If the test expression is true, statements inside the body of while loop are executed. Then, the test expression is evaluated again.
3. The process goes on until the test expression is evaluated to false.
4. If the test expression is false, the loop terminates (ends).



Example -1

//Write a C program to print Abhilasha time using while loop.

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

    int i = 2; clrscr();
    while (i < 3) {
        printf(“Abhilasha \n");
        i++;
    }
  getch ();
}
```

Output:

Abhilasha

Assignment of While loop

1. **Write a C program to print all even numbers between 1 to n using while loop.**
2. **Write a c program to find the sum of square of first n natural number using while loop.**

Introduction of do..while loop

do while loop in C

The do while loop is a post tested loop. Using the do-while loop, we can repeat the execution of several parts of the statements. The do-while loop is mainly used in the case where we need to execute the loop at least once. The do-while loop is mostly used in menu-driven programs where the termination condition depends upon the end user.

do while loop syntax

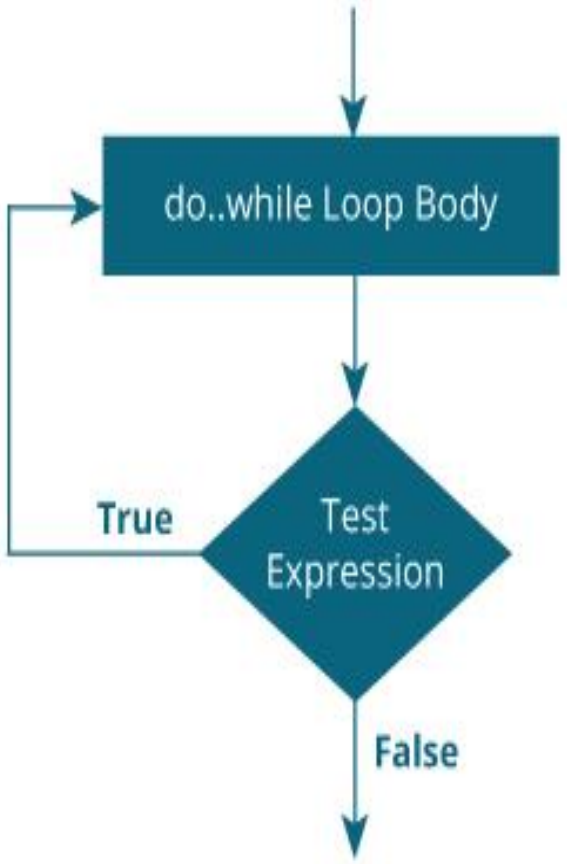
The syntax of the C language do-while loop is given below:

```
do{
//code to be executed
}while(condition);
```

Flowchart of do..while loop

How do...while loop works?

1. The body of do...while loop is executed once. Only then, the test expression is evaluated.
2. If the test expression is true, the body of the loop is executed again and the test expression is evaluated.
3. This process goes on until the test expression becomes false.
4. If the test expression is false, the loop ends.



Example -2

//Write a C program to print Abhilasha 5 time using do..while loop.

```
#include <stdio.h>
#include<conio.h>
  void  main()
{
    int i = 2; clrscr();
   do {
        printf(“Abhilasha \n");
        i++;
    } while (i < 3);
  getch ();
}
```

Output:

Abhilasha

Assignment of do...While loop

1. **Write a C program to print all even numbers between 1 to n using do while loop.**
2. **Write a c program to find the sum of square of first n natural number using do while loop.**

Difference between while loop and do while loop

While	*Do-while*
1. Condition is at top.	1. Condition is at the bottom.
2. No necessity of bracket if there is single statement in body.	2. Brackets are compulsory even if there is a single statement.
3. There is no semicolon at the end of while.	3. The semicolon is compulsory at the end do-while.
4. Computer executes the body if and only if condition is true.	4. Computer executes the body at least once even if condition is false.
5. This should be used when condition is more important.	5. This should be used when the process is important.
6. This loop is also refered as entry controlled loop.	6. This loop is also refered as exit controlled loop.

7.While(n<10)
{
printf("%d\n",n);
}
	7.Do
	{
	Printf("%d\n",n);
	}while(n<=100);

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Thank you!