

JAYPEE UNIVERSITY OF ENGINEERING & TECHNOLOGY, GUNA
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
Computer Programming Lab (14B17CI171)
B.Tech. (CSE/ECE/MECH/CE/CHE) Semester-I

Lab Experiment-7
C Programs: Loop Construct

Syntax:

<p>Loop Construct (While – loop) Statement</p>	<div style="text-align: center;"> </div> <p>(i) <code>while (n!=0) statement;</code> ✗ No semicolon here Single statement body</p> <div style="text-align: center;"> </div> <p>(ii) <code>while (n<45) { statement; statement; }</code> ✗ No semicolon here Compound statement body</p> <p>(iii) <code>while (j--);</code> ✓ Semicolon here Loop with no body</p> <p>(iv) <code>while (1) puts("I cannot stop.");</code> ✗ No semicolon here Infinite loop</p>
<p>Loop Construct (do-While – loop) Statements</p>	<div style="text-align: center;"> </div> <p>(i) <code>do statement; while (n<100);</code> ✗ No semicolon here Single statement body ✓ Semicolon here</p> <div style="text-align: center;"> </div> <p>(ii) <code>do { statement; statement; } while (n<100);</code> ✗ No semicolon here Multiple statement body ✓ Semicolon here</p>
<p>Loop Construct (for – loop) Statements</p>	<div style="text-align: center;"> </div> <p>(i) <code>for (j=0; j<25; j++) statement;</code> ✗ No semicolon here Single statement body</p> <div style="text-align: center;"> </div> <p>(ii) <code>for (j = 0; j<15; j++) { statement; statement; }</code> ✗ No semicolon here</p>

Practice

1. Two numbers are entered through the keyboard. Write a program to find the value of one number raised to the power of another. (For example, x and y are input variables and output is x^y .)
2. Write a C program to print the sum of n natural numbers. The sum of first 'n' natural no`s - $1+2+3+....+n$.
3. Write a program to count the number of digits in a given number.
4. Write a program to find the sum of digits in a given number.
5. Write a program to find that given number is palindrome or not.
6. Write a program to read a number N and print all its divisors.
7. Write a program to find input number is Prime or not.
8. Write a program to find that given number is perfect number or not.
9. Write a program that accepts N numbers as an input and print sum and average of N numbers.
10. Write a C program to find frequency of each digit in a given integer.
11. Write a C program to calculate the factorial of input number and display the result.
12. Write a C program to check whether a number is Strong number or not.
13. Write a program to find that given number is Armstrong number or not
14. Write a program to enter the numbers till the user wants and at the end it should display the count of positive, negative and zeros entered.
15. Write a C program to find two's complement of a binary number.
16. Write a C program to convert Binary to Octal number system.
17. Write a C program to convert Decimal to Binary number system.
18. Write a program to print all the ASCII values and their equivalent characters using a while loop.

The ASCII values vary from 0 to 255. Use formatting options with *printf* to display ASCII values and corresponding characters in a tabular form.
19. Write a C program to swap first and last digits of a number.
20. Write a program to create a list of the leap years found in a given range of years.