

1. Looping: while, do...while and for (Week 4, Week 5)

Day 7

Lab Assignments

1. WAP to print the natural numbers from 1 to n.
Input: Enter the value of n: 7
Output: Natural numbers from 1 to 7 are: 1 2 3 4 5 6 7
2. WAP to print all even numbers within a given range. The range is given by the user.
Input 1: Enter two numbers: 3 20
Output 1: Even numbers within range 3 and 20 are: 4 6 8 10 12 14 16 18 20
Input 2: Enter two numbers: 10 2
Output 2: Even numbers within range 10 and 2 are: 10 8 6 4 2
3. WAP to read 10 integers as input. Print their sum and average.
Input: Enter 10 integers: 54 32 56 76 87 90 23 12 44 55
Output: The sum is 529. The average is 52.900002
4. WAP to calculate the sum of digits of a given number.
Input: Enter a number: 125
Output: Sum of the digits of 125 = 8
5. WAP to calculate the factorial of a given number.
Input: Enter a number: 4
Output: Factorial of 4 = 24
6. WAP to find the GCD/HCF and LCM of two given numbers.
Input: Enter two numbers: 20 30
Output: GCD of 20 and 30 is 10.
LCM of 20 and 30 is 60.

Home Assignments

1. WAP to input any integer and print your name that many times.
Input: Enter an integer: 5
Output: Jasaswi
Jasaswi
Jasaswi
Jasaswi
Jasaswi
2. WAP to print all odd and even numbers separately within a given range in descending and ascending order respectively. The range is to be inputted from the user.
Input: Enter a range: 5 17
Output: Odd numbers within range 17 and 5: 17 15 13 11 9 7 5
Even numbers within range 5 and 17: 6 8 10 12 14 16
3. WAP to calculate the reverse of a given number.
Input: Enter a number: 125
Output: Reverse of 125 = 521
4. WAP to check a number is palindrome or not
Input 1: Enter a number: 121
Output 1: 121 is a palindrome number
Input 2: Enter a number: 427
Output 2: 427 is not a palindrome number
5. WAP to find the first n numbers of a Fibonacci sequence.

Input: Enter a number: 10

Output: First 10 numbers of the Fibonacci sequence are: 0 1 1 2 3 5 8 13 21 34

6. WAP to find x to the power of y where x and y will be inputted from the keyboard.

Input: Enter the value of x and y: 2 5

Output: 2 to the power 5 = 32

Book Exercises

1. WAP to read the age of 10 persons and count the number of persons in the age group 50 to 40. Use for statements. [Page No: 208, Exercise 7.6]

Input: Enter the age of 10 persons: 30 45 56 51 39 18 54 33 45 50

Output: Number of persons in the age group 50 to 40 = 4

2. The present value (popularly known as book value) of an item is given by the relationship:

$$P = c(1 - d)^n$$

where c : original cost

d : rate of depreciation (per year)

n : number of years

P : present value after n years

If P is considered the scrap value at the end of useful life of the item, write a program to compute the useful life in years given the original cost, depreciation rate and the scrap value. The program should request the user to input the data interactively. [Page No: 209, Exercise 7.12]

Input: Enter the original cost of the item: 3000

Enter the rate of depreciation (per year): 200

Enter the scrap value of the item: 2200

Output: Useful life of the item = 4 years

Do you want to continue [Y for Yes and N for No]: N