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**Assignment No 1:**

1. Write a program that takes two numbers as input and prints their sum.

PROGRAM PrintSum:

Read num1;

Read num2;

Sum = num1 + num2

Print Sum;

END.

1. Write a program that prints all even numbers from 1 to 100.

PRIGRAM PrintEven:

Counter = 2;

WHILE (Counter <= 100)

DO Print Counter;

Counter = Counter + 2;

ENDWHILE;

END.

1. Write a function that checks if a given year is a leap year or not.

PROGRAM CheckLeapyear:

Read year

IF (year%4 == 0 AND year %100 != 0) OR (year%400 == 0)

THEN Print “It is a Leap Year”;

ELSE Print “It is not a Leap Year”;

ENDIF

END.

1. Write a program that converts kilometers per hours to miles per hour. **Hint**: 1km = 0.621371

PROGRAM KilometersToMiles:

Read kilometers\_per\_hours;

Miles\_per\_hours = kilometers\_per\_hours \* 0.621371;

Print kilometers\_per\_hours;

END.

1. Write a pseudocode to check whether a number is a buzz number or not. **Hint**: A number is said to be buzz if it is divisible by 7 or it ends with 7.

PROGRAM FindBuzz:

Read num;

IF (num/7 gives a remainder of zero OR num/10 gives a remainder of 7)

THEN print ‘’It is a buzz number”;

ELSE print “it is not a buzz number”;

ENDIF;

END.

1. Write a program that asks a user for number and prints the multiplication table of that number up to 10.

Program WriteTable:

Read num;

FOR (Counter = 1; Counter<=10; Counter++)

DO Print num \* Counter;

ENDFOR;

END.

1. Write a program that computes the factorial of a number (n!).

Program ComputeFactorial:

Read num;

Counter = 1;

Result = 1;

While (Counter <= num)

Do Result = Result \* Counter;

Counter = Counter + 1;

ENDWHILE;

END.

1. Write a function that checks whether a number is prime or not.

PROGRAM CheckPrime:

Read num;

Counter = 2;

isPrime = True;

WHILE (Counter <= num/2 AND isPrime = True)

DO IF (num/Counter gives a remainder of Zero)

THEN IsPrime = False;

ENDIF

Counter = Counter + 1

ENDWHILE

IF (IsPrime = True)

THEN Print "The number is prime."

ELSE Print "The number is not prime."

ENDIF

END.

1. Write a program to check whether the triangle is equilateral, isosceles or scalene triangle.
   * In a scalene triangle, all the sides of a triangle are of different length.
   * In an isosceles triangle, two sides of a triangle are of the same measure.
   * In an equilateral triangle, all the sides of a triangle are of equal length.

Program CheckTriangle:

Read side1;

Read side2;

Read side3;

IF (side1 = 0 OR side2 = 0 OR side3 = 0):  
 Then Print “Invalid Triangle Sides”;

ELSE IF (side1 == side2) AND (side2 == side 3)

THEN Print “It is an equilateral triangle”;

ELSE IF (side1 == side2) OR (side2 == side3) OR (side1 == side3)

THEN Print “It is an isosceles triangle”;

ELSE Print “It is a scalene triangle”;

ENDIF;

ENDIF;

END.

**Pattern Questions:**

10. Print this pattern: (using multiple prints and then by loop)

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MULTIPLE PRINTS:

PROGRAM PrintPattern:

Print “\*” next Line;

Print “\*\*” next Line;

Print “\*\*\*” next Line;

Print “\*\*\*\*” next Line;

Print “\*\*\*\*\*”;

END.

LOOP:

PROGRAM PrintPattern:  
 FOR (Counter=1; Counter<=5; Counter++)

D0 FOR (Printer=1; Printer<=Counter; Printer++)

DO Print “\*”

ENDFOR;

Go to next line

ENDFOR

END.

**Bonus Question**

* + Write a function that checks whether a number is a palindrome or not.

PROGRAM CheckPalindrome:

Read num;

numString = num converted to string

numChararray = numString converted to char array

reverseString = empty string;

FOR (Counter = length of numString-1;Counter>=0;Counter--)

DO reverseString+= numString[Counter];

ENDFOR;

IF (reverseString == numString)  
 THEN Print “it is a palindrome”

ELSE print “It is not a palindrome”

END.