**Assignment-1**

1. Write a pseudocode to determine whether a person is eligible to vote or not given his/her age. The voting eligibility criteria is that the person’s age must be >= 18.

Pseudocode:

START

NUMBER age

DISPLAY “enter age”

IF age>=18

DISPLAY “eligible for voting!”

ELSE

DISPLAY “not eligible for voting!”

END IF

END

1. Write an algorithm to determine whether a number is a prime number or not.

Pseudocode:

STEP 1: START.

STEP 2: Take num as input.

STEP 3: Initialize a variable temp=0.

STEP 4: Iterate a “for” loop from 2 to num/2.

STEP 5: if num is divisible by loop iterator, then increment temp.

STEP 6: if the temp is equal to 0,

Return “Num is Prime”.

Else,

Return “ Num is not Prime”.

STEP 7: STOP.

1. Write a pseudocode to reverse the digits of a number.

Pseudocode:

Input : A number n

Output: The reverse of the number n

1. Procedure reverse(n)

2. Reverse=0

3. Repeat until n!=0

4. Reverse=reverse\*10+(n mod 10)

5. n=n/10

6. Return reverse

7. End procedure

4. Write an algorithm to find the factorial of a given number.

Algorithm:

STEP 1: Start.

STEP 2: declare variable i ,n ,fact

STEP 3: read from user

STEP 4: initialize variable fact=1 and i=1

STEP 5: repeat until i<=number

fact =fact\*i

i=i+1

STEP 6: Print fact

STEP 7: Stop.

1. Write a pseudocode to count the number of vowels in the string CITIUSTECH.

Pseudocode:

Take input as string like CITIUSTECH from the user

Initialise a count=0;vowels=0;

Declare variable C and str [CITIUSTECH]

While(str[count] != ‘/0’)

C = str[count];

if ( c==’a’ || c==’A’ || c==’e’ || c==’E’ || c==’i’ || c==’I’ || c= =’o’

|| c==’O’ || c==’u’ || c==’U’|| ) {

vowels++;

count++;

print the number of vowels in the given string area.

6) Write an algorithm for each pseudocode written in assignment 1, 3 and 5.

1) Algorithm:

STEP 1: Start

STEP 2: read the number from the user

STEP 3: if number is equal to or greater than 18 print eligible for voting

STEP 4: else print not eligible for voting

STEP 5: Stop.

3) Algorithm:

STEP 1: Start

STEP 2: Read number from the user

STEP 3: initialize variable reverse=0;

STEP 4: while number is greater than 0

Remainder=number%10

Reverse = (Reverse \*10)+Remainder

Number = Number//10

STEP 5: if the number is less than 0 come out of the loop

STEP 6: print reverse

STEP 7: Stop.

5) Algorithm:

set the count to 0

Loop through the string until it reaches a null character

Compare each character to the vowels a, e, i, o, u

If both are equal increase the count by one

Print the count at the one.

7. Write a pseudocode for each algorithm written in assignment 2, 4 and 6

2) Pseudocode:

INPUT n

i=2

answer = prime

WHILE i <= n/2

rem = n % i

if rem is not equal to 0

i = i +1

ELSE

Answer = not prime

End while loop

OUTPUT answer.

4) Pseudocode:

Input number

Set factorial =1, i=1

While i <= number do

Compute factorial = factorial \*i

Increase i by 1

End loop

Print factorial.