# **PPS**

# **UNIT-1 Assignment**

Q1) Write an Algorithm and Draw flowchart to find the sum of four numbers.

A screen shot of a computer program

Description automatically generated

A diagram of a number

Description automatically generated

Algorithm: -

Step 1: Start

Step 2: Declare variables a, b, c, d.

Step 3: Read values into a, b, c, d.

Step 4: Sum= a + b + c + d

Step 5: Print “sum”

Step 6: Stop

A screenshot of a computer program

Description automatically generated

Q2) Write an algorithm and draw flowchart to calculate the total marks of a student and also check whether the student is pass or fail. The total mark is calculated as the average of five subject marks.

A screenshot of a computer program

Description automatically generatedA screenshot of a computer program

Description automatically generatedA screenshot of a computer program

Description automatically generated2

A diagram of a flowchart

Description automatically generated

Q2 Flowchart

Algorithm: -

Step 1: Start

Step 2: Declare variable a,b,c,d and e

Step 3: Read values into a,b,c,d and e

Step 4: total=a+b+c+d+e and avg=total/5

Step 5: Check if avg>40, then go to step 7 else, to step 8.

Step 6: Print “Pass”

Step 7: Print “Fail”

Step 8: Stop

A white box with black text

Description automatically generatedA white box with black text

Description automatically generatedQ3) Write an Algorithm and draw flowchart to calculate the result when a number is given, if that number is greater than fifty then number must be increased five times otherwise the number is decreased by ten.

A diagram of a number

Description automatically generatedAlgorithm: -

Step 1: Start

Step 2: Read number “n”

Step 3: If n>50, go to step 4, else go to step 5

Step 4: print result= n\*5

Step 5: print result= n-10

Step 6: Stop

Q4) Write an Algorithm and draw flowchart to write the word ‘COEP’ 10 times.

A white rectangular object with a black border

Description automatically generated A diagram of a flowchart

Description automatically generated

Algorithm:-

Step 1: Start

Step 2: Set i=0

Step 3: If i<10 go to step 4, else to step 6

Step 4: Print “COEP

Step 5: i=i+1

Step 6: Stop

Q5) Write an algorithm and draw flowchart for finding area of rectangle.

A screenshot of a computer code

Description automatically generatedA diagram of a diagram

Description automatically generated

Algorithm: -

Step 1: Start

Step 2: Declare variables l and b.

Step 3: Read values into l and b.

Step 4: Area = l \* b

Step 5: Print “Area”

Step 6: Stop

Q6) Write an algorithm and Draw flowchart to find the sum of integers 1 to 50.

A screenshot of a diagram

Description automatically generatedA screenshot of a computer code

Description automatically generated

Algorithm: -

Step 1: Start

Step 2: Set n = 50

Step 3: Sum = ((n\* (n+1)) / 2)

Step 4: Print “Sum”

Step 5: Stop

A computer screen shot of a number of numbers

Description automatically generatedA computer code with numbers and symbols

Description automatically generatedA screenshot of a diagram

Description automatically generatedQ7. Write an algorithm and Draw flowchart to check if the input year is a leap year or not.

A screenshot of a computer code

Description automatically generated

Algorithm: -

Step 1: Start

Step 2: Read year

Step 3: check divisibility by 4 and not divisible by 100, if yes print year is leap and go to step 6, else step 4.

Step 4: check divisibility by 400 and 100, if yes print year is leap and go to step 6, else step 5.

Step 5: Print year is not leap

Step 6: Stop

Q8) Write an algorithm and Draw flowchart to display the Fibonacci sequence of n terms.

A screenshot of a computer program

Description automatically generatedA diagram of a flowchart

Description automatically generated

Algorithm: -

Step 1: Start

Step 2: Set variable a = 0 and b = 1

Step 3: print a

Step 4: Increment term by 1

Step 5: If term < n, go to step 6, else to step 9

Step 6: print b

Step 7: set c = a + b and a = b and b = c

Step 8: go to step 4

Step 9: Stop

Q9. Write an algorithm and Draw flowchart to find whether a number is Armstrong number or not.

Algorithm: -

Step 1: Start

Step 2: Declare variable sum, temp, num.

A screen shot of a computer program

Description automatically generatedStep 3: read num from user input

Step 4: initialize variable sum = 0 & temp = num

Step 5: Repeat until num >= 0

Sum = sum + cube of last digit

Num = num / 10

Step 6: If sum = temp, print “Armstrong number” else print “not Armstrong number”

Step 7: Stop

A screenshot of a computer flowchart

Description automatically generated

A screenshot of a computer code

Description automatically generatedA diagram of a function

Description automatically generatedQ10. Write an algorithm and draw a flowchart to find Sum of squares of first ‘n’ natural numbers

Algorithm: -

Step 1: Start

Step 2: Declare and read n

Step 3: sum = ((n (n+1) (2n+1)) / 6)

Step 4: Print “sum”

Step 5: Stop