**LAB 03**

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CLASS : BSCS-7-c

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**TASK : 1**

/\* A pseudocode to represent a logic of a program that inputs from the user the height and width of a wall, calculates and displays the amount of paint you need to cover the wall. It takes one gallon of paint for every 150 square feet of wall. \*/

Start

Use variables height, width, Area, Required\_amount of type integer

Display “Enter the height (feet) ”

Display “Enter the width (feet)”

INPUT height, width

Area = width \* height

Required\_amount = Area/150

Print (“The amount of paint is” , Required\_amount “gallons”)

Stop

**TASK : 2**

Start

/\* A program is required that allows the user to input and assignment mark (out of 100) and an exam mark (out of 100) and display an overall mark in the proportions specified \*/

Use variables Assignment\_mark, Exam\_mark, overall\_marks of type integer

Display “Assignment\_mark (0 to 100)”

Display “Exam\_mark (0 to 100)”

Input Assignment\_mark

Input Exam\_mark

overall\_marks = (0.4\*Assignment\_mark) + (0.6\*Exam\_marks)

Print (“The overall exam marks are”, overall\_marks”)

Stop

**TASK : 3**

**/\*** A shop owner requires a program to calculate the GST payable on items purchased \*/

Start

Use variables Pre\_GST, GST, Total\_price of type integer

Display “Pre GST Price (RS) :”

Input Pre\_GST

Compute GST=Pre\_GST/10

Print (“GST= RS. “, GST)

Compute Total\_price = GST + Pre\_GST

Print(“Price Including GST = RS.”, Total\_price)

Stop

**TASK : 4**

**/\*** a program to calculate the water rates for a customer \*/

Start

Use variables service\_fee, volume\_used, total\_litres, cost of type integer

Use variable Type of type string

Service\_fee= 100

Display “Volume used(litres)”

Input Volume\_used

Display “Type of user D=Domestic C= Commercial”

Input Type

IF Type == D

Then Cost = 100 + (1\*Volume\_used)

Print Cost

ELSE Cost = 100 + (1.2\*volume\_used)

Print Cost

Stop

**TASK : 5**

Start

/\* A pseudocode to compute a person’s income tax \*/

Use variables gross, dependents, income tax of type integer, income after tax, income left

Display “Enter gross income”

Display “Enter number of dependents”

Input gross

Input dependents

Calculate income left = (gross income – 1000) – (2000 \* dependents)

Calculate income after tax = income left – (0.2\*income left)

Print income tax

Stop

**TASK : 6**

**/\* A** psedocode to represent the logic of a program that allows the user to enter a value for the radius of a circle \*/

Start

Use variables radius, area, circumference, diameter of type integer

REPEAT

Display “Enter radius”

INPUT radius

UNTIL radius > 0

Compute area = 3.142\*radius\*radius

Print area

IF area < 15

THEN Print (“Circle is small”)

ELSE

Print (“Circle is big”)

Compute diameter = radius\*2

Print diameter

Compute circumference

Print circumference

Stop

**TASK : 7**

/\* The pseudocode below calculates the future value of a fixed monthly investment \*/

Start

Use variables monthly, yearly, fixed, future, number of type integer

Display “monthly investment”

Display “yearly investment”

Display “number of years invested”

Display “Future value”

Input monthly, yearly, fixed, future, number

Calculate future= monthly\*[(interest/100) + 1]^number

Print (“The future value is “, future)

Stop

**TASK : 8**

/\* a pseudocode to display the times table (from 1 to 12) for the number input \*/

Start

Use variables m, n, i of type integer

Display “Input number”

Input n

For i=1 ; i<=12 ; i=i+1

Calculate m = n\*i

Print n “\*” i “=” m

End For

Stop

**TASK : 9**

/\* a pseudocode to display the number of days in a month. \*/

Start

Use variable n of type integer

REPEAT

Display “Enter the value of n”

Input n

UNTIL n>0 AND n<=12

IF n==2 THEN Print (“28”)

ELSE IF n== 1,3,5,7,8,10,12

Print “31 days”

ELSE n== 4,6,9,11

Print “30 days”

ELSE Exit

Stop

**TASK : 10**

To display the number of days more accurately, we also need to accept the year because in a leap year, February has 29 days else it has 28.

**BONUS CHALLENGES**

1. /\* A program is required to add up three numbers and display their total. \*/

Start

Use variables a, b, sum, c of type int

Display “Enter numbers”

Input a, b, c

Compute Sum = a+b+c

Print Sum

Stop

1. /\* A program is required to divide two numbers together and display the result. \*/

**CONDITION :** if the second number is a zero

**ACTION** : The calculation can’t be done as dividing a number by zero gives a result of infinity

Start

*Use* variables a, b, divide of type int

*Display* “Enter two numbers”

*Input* a,b

*IF* b==0 Then print “Infinity”

Else

*divide* = a/b

Print divide

Stop

1. /\* a program to calculate the balance of an account after a transaction. \*/

Start

Use variables initial, Final, deposit, withdrawal of type int

Use variable transaction of type string

Input initial

Display “Type of transaction”

Input transaction

Do CASE of transaction

CASE is = “D”

Display “deposited amount”

Input deposit

Final = initial + deposit

Print Final

CASE = “W”

Display “Withdrawal amount”

Input withdrawal

Final = initial – withdrawal

Print Final

Stop