By:Elite (Diaba).

**SOLUTIONS TO PSEUDOCODE LAB EXERCISES**

Compiled By: [ITE 100 H Class]

```
Begin
Declare String name
Declare Integer age
Display "Enter your name"
Input name
Display "Enter your age"
Input age
Display "Hello ", name, "you are ", age " years old"
End
```

**Triangle Program**

**********

```
Begin
Declare Real Area, height, base
Display "Enter the height"
Input height
Display "Enter the base"
Input base
Set Area = 0.5*base*height
Display "The area of the triangle is ", Area
End
```

**Displaying the Roman Numeral of 1 - 5 using If-Then-Else-If**

**********

```
Begin
Declare Real number
Display "Enter a number from 1 to 5"
Input number
If number==1
   Display "I"
Else If number==2
   Display "II"
Else If number==3
   Display "III"
Else If number==4
   Display "IV"
Else If number==5
   Display "V"
Else
   Display "Error: Number should be within the range of 1 to 5"
End If
End
```

**Displaying the Roman Numeral of 1 - 5 using Case Structure**

**********

```
Begin
Declare Real number
Display "Enter a number from 1 to 5"
Input number
Select number
Case:1
   Display "I"
Case:2
   Display "II"
Case:3
   Display "III"
Case:4
   Display "IV"
Case:5
   Display "V"
Default:
   Display "Error: Number should be within the range of 1 to 5"
End Select
End
```

**Modular Program of Kilometer Converter**

**(Miles = Kilometers x 0.6214)**

**********

```
Begin
Module Miles()
Declare Real Miles, Kilometers
Display "Enter your kilometers"
Input Kilometers
Set Miles = Kilometers * 0.6214
Display "The distance covered in miles is ", Miles
End Module
End
```

**Average of 3 tests**

**********

```
Begin
Declare Real test1, test2, test3, average
Display "Enter test 1 score"
Input test1
Display "Enter test 2 score"
Input test2
Display "Enter test 3 score"
Input test3
Set average = (test1 + test2 + test3)/3
Display "The average test score is ", average
End
```

**Area of a circle using a constant for PI**

**********

```
Begin
Constant Real PI = 3.142
Declare Real Area, radius
Display "Enter the radius"
Input radius
Set Area = PI * radius * radius
Display "The area of the circle is ", Area
End
```

**Sales Prediction Program with comments**

**********

```
Begin
//Declare variables
Declare Real Amount
Declare Real totalSales
//Ask user to enter amount
Display "Enter amount"
Input Amount
//calculate for total sales
Set totalSales = 0.23 * Amount
//Display total sales to the user
Display "The annual profit of the company is ", totalSales
End
```

**Land Calculation**

```
***************
Begin
Declare Real numberOfAcres
Constant Real oneAcre = 43560
Declare Real totalSquareFeet
Display "Enter total square feet of land"
Input totalSquareFeet
Set numberOfAcres = totalSquareFeet / oneAcre
Display "The number of acres in the land is ", numberOfAcres
End
```

**Distance Traveled in (5, 8, 12) hours**

```
************************************
Begin
Declare Real distance
Declare Real speed
Declare Real time
Set speed = 60
Set time = 5
Set distance = speed * time
Display "The distance the car will travel in ", time, "hours is ", distance
Set time = 8
Set distance = speed * time
Display "The distance the car will travel in ", time, "hours is ", distance
Set time = 12
Set distance = speed * time
Display "The distance the car will travel in ", time, "hours is ", distance
End
```

**How Much Insurance?**

**********

```
Begin
Module Insurance()
Declare Real cost, insuranceAmount
Display "Enter your replacement cost"
Input cost
Set insuranceAmount = 0.8 * cost
Display "The minimum amount of insurance to be bought is ", insuranceAmount
End Module
End
```

**Automobile Costs**

**********

```
Begin
Module autoMobile()
Declare Real loanPayment, insurance, gas, oil, tires, maintenance
Declare Real monthlyCost, annualCost
Display "Enter the monthly cost of Loan Payment"
Input loanPayment
Display "Enter the monthly cost of Insurance"
Input insurance
Display "Enter the monthly cost of Gas"
Input gas
Display "Enter the monthly cost of Oil"
Input oil
Display "Enter the monthly cost of Tires"
Input tires
Display "Enter the monthly cost of Maintenance"
Input maintenance
Set monthlyCost = loanPayment + insurance + gas + oil + tires + maintenance
Display "The monthly cost incurred is ", monthlyCost
Set annualCost = monthlyCost * 12
Display "The annual cost incurred is ", annualCost
End Module
End
```

**Property Tax**

**********

```
Begin
Module propertyTaxCalculator()
Declare Real propertyValue, assessmentValue, propertyTax
Display "Enter the actual value of a property"
Input propertyValue
Set assessmentValue = propertyValue * 0.6
Set propertyTax = (assessmentValue / 100) * 0.64
Display "The assessment value is $", assessmentValue
Display "The property tax is $", propertyTax
End Module
End
```

**Number of Calories**

**********

```
Begin
Declare Real Calories, bodyWeight
Display "Enter your weight"
Input bodyWeight
Set Calories = bodyWeight * 19
Display "The number of calories needed is ", Calories
End
```

**Printing a pyramid of asterisks**

```
******************************
Display "*"
Display "**"
Display "***"
Display "****"
Display "*****"
Display "******"
Display "*******"
Display "********"
```

**If-Then-Else Number Assignment**

```
******************************
Begin
If a < 10 Then
   Set b = 0
Else
   Set b = 99
End If
End
```

**Areas of Rectangles**

**********

```
Begin
Declare Real area1, area2, length1, length2, width1, width2
Display "Enter the length of the 1st rectangle"
Input length1
Display "Enter the width of the 1st rectangle"
Input width1
Set area1 = length1 * width1
Display "Enter the length of the 2nd rectangle"
Input length2
Display "Enter the width of the 2nd rectangle"
Input width2
Set area2 = length2 * width2
If area1 > area2 Then
   Display "Area of 1st Rectangle is greater than area of 2nd rectangle"
Else If area2 == area1 Then
   Display "The areas are the same"
Else
   Display "Area of 2nd Rectangle is greater than area of 1st rectangle"
End If
End
```

**Mass and Weight**

```
***************
Begin
Declare Real Weight
Declare Real Mass
Display "Enter the mass of the object"
Input Mass
Set Weight = Mass * 9.8
Display "The Weight of the object is ", Weight
If Weight>1000 Then
   Display "The object is too heavy"
If Weight<10 Then
   Display "The object is too light"
End If
End If
End
```

**Total Purchase**

```
**************
Begin
Declare Real item_1, item_2, item_3, item_4, item_5
Declare Real subTotal
Declare Real amountOfSalesTax
Declare Real total
Display "What is the price of item 1?"
Input item_1
Display "What is the price of item 2?"
Input item_2
Display "What is the price of item 3?"
Input item_3
Display "What is the price of item 4?"
Input item_4
Display "What is the price of item 5?"
Input item_5
Set subTotal = item_1 + item_2 + item_3 + item_4 + item_5
Display "Sub-Total of items purchased is ", subTotal
Set amountOfSalesTax = 0.06 * subTotal
Display "Amount of Sales Tax is ", amountOfSalesTax
Set total = amountOfSalesTax + subTotal
Display "The total amount purchased is ", total
End
```