**Question 20 \*:**

Module Module1

Sub Main()

'declaring variables

Dim num, modz, exponent As Integer

Dim numz As Double

'gets the integer number input from the user

Console.WriteLine("Enter the number.")

num = Console.ReadLine()

numz = num

modz = 0

Do Until numz = 0

If numz Mod 2 = 1 Then

modz = modz + 1

End If

numz = Math.Floor(numz / 2)

If modz = 2 Then

modz = 0

exponent = exponent + 1

End If

exponent = exponent + 1

Loop

For i = exponent - 1 To 0 Step -1

If num >= 2 ^ i Then

num = num - 2 ^ i

Console.Write("1")

Else

Console.Write("0")

End If

Next

Console.ReadLine()

End Sub

End Module

**Question 21:**

Module Module1

Sub Main()

'declaring variables

Dim num, sum, entry As Double

Console.WriteLine("Please enter numbers. Press zero when you want to stop.")

num = Console.ReadLine()

sum = num

Do Until num = 0 'the loop gets inputs until 0 is entered

entry = entry + 1

num = Console.ReadLine()

sum = sum + num

Loop

Console.WriteLine("The average of numbers is {0}", sum / entry) 'displays the average

Console.WriteLine("The sum of nuumbers that were entered is {0}", sum) 'displays the sum

Console.ReadLine()

End Sub

End Module

**Question 22:**

odule Module1

Sub Main()

Dim num As Object = 15

Dim answer As String = "N"

Console.WriteLine("If you don't want to enter any number and proceed, press y and then press enter.")

answer = UCase(Console.ReadLine())

answer = answer.Trim()

If answer = "Y" Then

Console.WriteLine("Thank you for using this program.")

Console.WriteLine("Press enter to exit.")

Console.ReadLine()

End

End If

Do While (num >= 10 And num <= 20)

Console.WriteLine("Please enter a number between 10 to 20 inclusive.")

num = Console.ReadLine()

Console.Clear()

Loop

Console.WriteLine("Thank you for using this program.")

Console.WriteLine("Press enter to exit.")

Console.ReadLine()

End Sub

End Module

**Question 23:**

Module Module1

Sub Main()

Console.WriteLine("Pounds" + vbTab + "Kilos")

For i = 1 To 20

Console.WriteLine("{0}" + vbTab + "{1}", i, i \* 2.2)

Next

Console.ReadLine()

End Sub

End Module

**Question 24:**

Module Module1

Sub Main()

Dim numbers As New List(Of Integer) 'stores the integers

Console.WriteLine("Enter number.")

numbers.Add(Console.ReadLine())

Console.WriteLine()

Do Until (numbers.Min() < 0)

Console.WriteLine("Enter number.")

numbers.Add(Console.ReadLine())

Console.WriteLine()

Loop

numbers.RemoveAt(numbers.Count - 1)

Console.WriteLine("The largest of the integers entered is {0}.", numbers.Max())

Console.WriteLine("The smallest of the integers entered is {0}.", numbers.Min())

Console.ReadLine()

End Sub

End Module

**Question 25\*:**

Module Module1

Sub Main()

Dim num, guess As Integer

Randomize()

num = Rnd() \* 999 + 1

Do Until num = guess

Console.WriteLine("What number do you think has the computer thought of?")

guess = Console.ReadLine()

If guess - num > 10 Then

Console.WriteLine("Sorry, your guess was way too high.")

Console.WriteLine("Press enter to clear console window and try again.")

Console.ReadLine()

Console.Clear()

ElseIf guess - num < -10 Then

Console.WriteLine("Sorry, your guess was way too low.")

Console.WriteLine("Press enter to clear console window and try again.")

Console.ReadLine()

Console.Clear()

ElseIf num <> guess And guess - num < 10 And guess = num > -10 Then

Console.WriteLine("Hey, that was close!")

Console.WriteLine("Try again, you might guess it corectly this time.")

Console.WriteLine("Press enter to clear console window and try again.")

Console.ReadLine()

Console.Clear()

End If

Loop

Console.WriteLine("Kudos! Way to go! You guessed it correct!")

Console.ReadLine()

End Sub

End Module

**Question 26:**

Module Module1

Sub Main()

Dim name(5) As String 'array to store names

For i = 0 To 5

Console.WriteLine("Enter name.")

name(i) = Console.ReadLine()

Console.WriteLine()

Next

Console.Clear()

Console.WriteLine("Original Order of names.")

For i = 0 To 5

Console.WriteLine(name(i))

Next

Console.WriteLine()

Console.WriteLine("Reverse Order of names.")

For i = 5 To 0 Step -1

Console.WriteLine(name(i))

Next

Console.WriteLine()

Console.WriteLine("Press enter to exit.")

Console.ReadLine()

End Sub

End Module

**Question 27:**

Module Module1

Sub Main()

Dim num(4) As Integer 'array to store values

For i = 0 To 4 'for loop that fills array with values

Console.WriteLine("Enter value.")

num(i) = Console.ReadLine()

Console.WriteLine()

Next

Array.Sort(num) 'sorts the array in order

Console.WriteLine()

Console.WriteLine("The elements that were entered are in order:")

For Each x In num 'displays each element of the array in order

Console.WriteLine(x)

Next

Console.WriteLine("Press enter to exit.")

Console.ReadLine()

End Sub

End Module

**Question 28:**

Module Module1

Sub Main()

Console.WriteLine("Specify the number of values you want to enter.")

Dim nums(Console.ReadLine() - 1) As Integer

Console.WriteLine()

For i = 0 To nums.Length - 1

Console.WriteLine("Enter value.")

nums(i) = Console.ReadLine()

Console.WriteLine()

Next

Console.WriteLine("The largest value is {0}. And its index in the array is {1}.", nums.Max(), Array.IndexOf(nums, nums.Max()))

Console.ReadLine()

End Sub

End Module

**Question 29**Module Module1

Sub Main()

Dim die(5) As Integer

Dim dieNum As Object

For i = 1 To 30

Randomize()

dieNum = Rnd() \* 5

die(dieNum) = die(dieNum) + 1

Next

For i = 1 To 6

Console.WriteLine("The number {0} appeared {1} times on the die.", i, die(i - 1))

Next

Console.WriteLine("Press enter to exit")

Console.ReadLine()

End Sub

End Module

**Question 30:**

Module Module1

Sub Main()

Dim subjects(4) As String

Dim periods() As String = {"1", "2", "3", "4", "5"}

For i = 0 To 4

Console.WriteLine("What subject is it in Period {0}?", periods(i))

subjects(i) = Console.ReadLine()

Console.WriteLine()

Next

Console.Clear()

Console.BackgroundColor = ConsoleColor.White

Console.ForegroundColor = ConsoleColor.Black

Console.WriteLine(" TIMETABLE ")

Console.WriteLine()

Console.WriteLine("Period" + vbTab + "Subject")

Console.BackgroundColor = ConsoleColor.Black

Console.ForegroundColor = ConsoleColor.White

For i = 0 To 4

Console.WriteLine("{0}" + vbTab + "{1}", periods(i), subjects(i))

Next

Console.ReadLine()

End Sub

End Module

**Question 31:**

Module Module1

Sub Main()

Dim places(9, 1) As String

Dim answer As Integer = 0

Dim random As Integer

Dim reply As String

For i = 0 To 9

For x = 1 To 1

Console.WriteLine("Enter country.")

places(i, 0) = Console.ReadLine()

Console.WriteLine()

Console.WriteLine("Enter Capital.")

places(i, x) = Console.ReadLine()

Console.WriteLine()

Next

Next

Console.Clear()

For i = 1 To 5

Randomize()

random = Rnd() \* 9

Console.WriteLine("What is the capital of {0}", places(random, 0))

reply = UCase(Console.ReadLine())

reply = reply.Trim()

places(random, 1) = places(random, 1).Trim()

places(random, 1) = UCase(places(random, 1))

If (reply = places(random, 1)) Then

answer = answer + 1

End If

Console.WriteLine()

Next

Console.WriteLine("You got a score of {0} out of 5.", answer)

Console.ReadLine()

End Sub

End Module