**Programming Solutions**

**Programming Concept: (e.g. Nested IFs)**

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| **Q / TASK** | **Code** | **Console Output** | **Comments/Problems** |
| 1 | Dim list() As String = {"name1", "name2", "name3", "name4", "name5", "name6", "name7", "name8", "name9", "name10"}  For count As Integer = 0 To 9  Console.WriteLine(list(count))  Next  Console.ReadLine() |  |  |
| 1 reverse | Dim list() As String = {"name1", "name2", "name3", "name4", "name5", "name6", "name7", "name8", "name9", "name10"}  Array.Reverse(list)  For count As Integer = 0 To 9  Console.WriteLine(list(count))  Next  Console.ReadLine() |  |  |
| 2 | Dim list(10) As Integer  Dim total, min, max As Integer  Console.WriteLine("enter number 1")  list(0) = Console.ReadLine  total += list(0)  min = list(0)  max = list(0)  For count As Integer = 1 To 9  Console.WriteLine("enter number {0}", count + 1)  list(count) = Console.ReadLine  total += list(count)  If list(count) < min Then  min = list(count)  End If  If list(count) > max Then  max = list(count)  End If  Next  Console.WriteLine("min: {0}", min)  Console.WriteLine("max: {0}", max)  Console.WriteLine("total: {0}", Format(total / list.GetLength(0), ".0"))  Console.ReadLine() |  |  |
| 3 | Randomize()  Dim num(100) As Integer  Dim a(9) As Integer  For count As Integer = 0 To 99  num(count) = Int(Rnd() \* 100) + 1  Console.Write(num(count) & ",")  Select Case num(count)  Case Is <= 10  a(0) += 1  Case 11 To 20  a(1) += 1  Case 21 To 30  a(2) += 1  Case 31 To 40  a(3) += 1  Case 41 To 50  a(4) += 1  Case 51 To 60  a(5) += 1  Case 61 To 70  a(6) += 1  Case 71 To 80  a(7) += 1  Case 81 To 90  a(8) += 1  Case Is >= 91  a(9) += 1  End Select  Next  Console.WriteLine()  For c As Integer = 0 To 9  Console.WriteLine(c \* 10 & "-" & (c + 1) \* 10 & " : " & a(c))  Next |  |  |
| 4 | Dim maxage As Single = 0  Dim agelist(3) As Single  Dim position As Integer  For index As Integer = 0 To 3  Console.WriteLine("enter age {0}", index + 1)  agelist(index) = Console.ReadLine  If agelist(index) > maxage Then  maxage = agelist(index)  position = index  End If  Next  Console.WriteLine(agelist(position) & " : " & position)  Console.ReadLine() | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  | agelist | | | |  |  |  | | index | 0 | 1 | 2 | 3 | maxage | position | output | | 12 | 12 |  |  |  | 12 | 0 | 12 : 0 | | 16 | 12 | 16 |  |  | 16 | 1 | 16 : 1 | | 17 | 12 | 16 | 17 |  | 17 | 2 | 17 : 2 | | 11 | 12 | 16 | 17 | 11 | 17 | 2 | 17 : 2 | |  |
| independent  work | Dim num(199) As Integer  Dim coun(6) As Integer  Randomize()  For count As Integer = 0 To 199  num(count) = Int(Rnd() \* 6) + 1  Console.Write(num(count) & ",")  Select Case num(count)  Case 1  coun(1) += 1  Case 2  coun(2) += 1  Case 3  coun(3) += 1  Case 4  coun(4) += 1  Case 5  coun(5) += 1  Case 6  coun(6) += 1  End Select  Next  Console.WriteLine()  For c As Integer = 1 To 6  Console.WriteLine(c & " : " & coun(c))  Next  Console.ReadLine() |  |  |
| Exam 1 | Dim name() As String = {"w", "a", "s", "d"}  Dim num As Integer  Dim search As String  Console.WriteLine("enter the name you want to search")  search = Console.ReadLine()  num = Array.IndexOf(name, search)  If num = -1 Then  Console.WriteLine("item not found")  Else  Console.WriteLine("founded at name({0})", num)  End If  Without index of (max element)  Dim name() As String = {"w", "a", "s", "d"}  Dim num As Integer = name.GetLength(0)  Dim search As String  Dim temp, tempnum As Integer  Console.WriteLine("enter the name you want to search")  search = Console.ReadLine()  Array.Sort(name)  For count As Integer = 0 To num - 1  If name(count) = search Then  temp = 1  Console.WriteLine("founded")  Console.WriteLine("name({0}) , recorded number: {1}", count, count + 1)  End If  Next  If temp = 0 Then  Console.WriteLine("item not found")  End If  Console.ReadLine() |  |  |
| Exam 2 | Dim grid(5, 3) As String  Dim row, col As Integer  Dim countrow, countcol As Integer  Console.WriteLine("enter the row number")  row = Console.ReadLine()  Console.WriteLine("enter the column number")  col = Console.ReadLine()  Console.WriteLine()  For countrow = 0 To row - 2  For countcol = 0 To 3  grid(countrow, countcol) = "x "  Console.Write(grid(countrow, countcol))  Next  Console.WriteLine()  Next  For countcol = 0 To col - 2  grid(row - 1, countcol) = "x "  Console.Write(grid(row - 1, countcol))  Next  grid(row - 1, col - 1) = "O "  Console.Write("O ")  For countcol = col To 3  grid(row - 1, countcol) = "x "  Console.Write(grid(row - 1, countcol))  Next  Console.WriteLine()  For count2row = row To 5  For count2col = 0 To 3  grid(count2row, count2col) = "x "  Console.Write(grid(count2row, count2col))  Next  Console.WriteLine()  Next  Console.ReadLine() |  |  |

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