**Programming Solutions**

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

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| --- | --- | --- | --- |
| **Q / TASK** | **Code** | **Console Output** | **Comments/Problems** |
| Writing task  +  Reading  Task1 | Imports System.IO  Module Module1  Sub Main()  Dim path As String = "C:\Users\chinghey.lau\Downloads\OneDrive - New Hall School\Projects\save.bin"  Dim fs As FileStream  Try  fs = New FileStream(path, FileMode.CreateNew)  Catch ex As Exception  fs = New FileStream(path, FileMode.Create)  End Try  Dim bw As BinaryWriter = New BinaryWriter(fs)  Dim initial, sur As String  Dim age As Integer  Console.WriteLine("data entry")  Console.WriteLine()  Console.WriteLine("Enter the initial: ")  initial = Console.ReadLine()  Console.WriteLine("Enter surname:")  sur = Console.ReadLine()  Console.WriteLine("Enter your age:")  age = Console.ReadLine()  bw.Write(initial)  bw.Write(sur)  bw.Write(age)  bw.Close()  fs.Close()  Console.WriteLine()  Console.WriteLine("Data Entry Complete. Press Enter to continue")  Console.ReadLine()  ' reading  Dim fs1 As FileStream = New FileStream(path, FileMode.Open)  Dim br As BinaryReader = New BinaryReader(fs1)  Console.Clear()  Console.WriteLine("Reading File")  Console.WriteLine()  initial = br.ReadString()  Console.WriteLine("Initial: {0}", initial)  sur = br.ReadString()  Console.WriteLine("Surname: {0}", sur)  age = br.ReadInt32() 'ReadInt32() reads a 4-byte signed integer  Console.WriteLine("Age: {0}", age)  br.Close()  fs1.Close()  Console.WriteLine("All Data Read.")  Console.ReadLine()  End Sub  End Module |  |  |
| Task 2 | Imports System.IO  Module Module1  Sub Main()  Dim path As String = "C:\Users\chinghey.lau\Downloads\OneDrive - New Hall School\Projects\newtable.bin"  Dim sr As StreamReader = New StreamReader("C:\Users\chinghey.lau\Downloads\OneDrive - New Hall School\Projects\9.1.1 NewTable.csv")  Dim fs As FileStream  Try  fs = New FileStream(path, FileMode.CreateNew)  Catch ex As Exception  Console.WriteLine("file exist! overwrited!")  fs = New FileStream(path, FileMode.Create)  End Try  Dim bw As BinaryWriter = New BinaryWriter(fs)  Dim word() As String = Split(sr.ReadLine(), ",")  bw.Write(word.Length())  For count As Integer = 0 To word.Length() - 1  Console.WriteLine("input: {0}", word(count))  bw.Write(word(count))  Next  bw.Close()  fs.Close()  Console.ReadLine()  Dim fs1 As FileStream = New FileStream(path, FileMode.Open)  Dim br As BinaryReader = New BinaryReader(fs1)  Dim length As Integer = br.ReadInt32()  For coun As Integer = 0 To length - 1  Console.WriteLine("binary read: {0}", br.ReadString())  Next  br.Close()  fs1.Close()  Console.ReadLine()  End Sub  End Module |  |  |
| Task3 | Imports System.IO  Module Module1  Structure Bookdetail  Dim title As String  Dim isbn As Long  Dim price As Single  Dim year As Integer  End Structure  Sub Main()  Write()  Read()  End Sub  Sub Write()  Dim path As String = "C:\Users\new\OneDrive - New Hall School\Projects\book.bin"  Dim fs As FileStream  Dim book As New Bookdetail()  Dim again As String  Try  fs = New FileStream(path, FileMode.CreateNew)  Catch ex As Exception  Console.WriteLine("File exist! overwrite mode")  fs = New FileStream(path, FileMode.Create)  End Try  Dim bw As New BinaryWriter(fs)  Do  Console.WriteLine("Enter title")  book.title = Console.ReadLine()  Console.WriteLine("Enter ISBN code")  book.isbn = Console.ReadLine()  Console.WriteLine("Enter the price")  book.price = Console.ReadLine()  Console.WriteLine("Enter the year of publish")  book.year = Console.ReadLine()  bw.Write(book.title)  bw.Write(book.isbn)  bw.Write(book.price)  bw.Write(book.year)  Console.Write("Another Entry(Y/N)?: ")  again = Console.ReadLine.ToUpper()  Loop Until again = "N"  bw.Close()  fs.Close()  Console.WriteLine("Data entry complete")  Console.ReadLine()  End Sub  Sub Read()  Dim path As String = "C:\Users\new\OneDrive - New Hall School\Projects\book.bin"  Dim fs1 As FileStream = New FileStream(path, FileMode.Open)  Dim br As BinaryReader = New BinaryReader(fs1)  Dim book1 As New Bookdetail()  Dim coun As Integer = 0  Console.WriteLine("Print book detail")  Try  Do  coun += 1  book1.title = br.ReadString()  book1.isbn = br.ReadInt64()  book1.price = br.ReadSingle()  book1.year = br.ReadInt32()  Console.WriteLine("book detail [{0}]:", coun)  Console.WriteLine("book title: {0}", book1.title)  Console.WriteLine("book isbn: {0}", book1.isbn)  Console.WriteLine("book price: {0}", book1.price)  Console.WriteLine("book year: {0}", book1.year)  Loop While fs1.Position < fs1.Length  Catch ex As Exception  Console.WriteLine("All Data Read.")  End Try  br.Close()  fs1.Close()  Console.ReadLine()  End Sub  End Module |  |  |
| Task 4 | Program read from binary usually faster than plaintext |  |  |
| Task5 | The data of game is more secure, not easy to edit |  |  |
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