Sequential File Handling

EXAMPLE 1 – Reading items into an array

Reading in and storing 10 marks from a file located named Test Marks.csv and store the items in an array called **marks**().

PSEUDOCODE

```
Open file Test Marks.csv
For index = 0 to 9
    Input mark(index)
Next
Close file
```

VISUAL BASIC

```
Filename = “Test Marks.csv”
Fileopen(1, filename, openmode.input)
For index = 0 to 9
    Input(1, marks(index))
Next
Fileclose(1)
```

EXAMPLE 2 – Writing data out to file

Write out the average test mark to a file named **average.csv**.

PSEUDOCODE

```
Open file average.csv
    Send average to FILE
Close file
```

VISUAL BASIC

```
Filename = “Average.csv”
Fileopen(2, filename, fileopen.output)
    Writeline(2, average)
Fileclose(2)
```

Sequential File Handling

EXAMPLE 3 – Declaring record structure, array of records and reading items into an array of records

Data

Forename	Surname	Class	Shape	Measure	Time	Arithmetic
Jessica	Smith	2.3	89	56	75	78
Philip	McCafferty	2.6	54	65	52	42
Sophie	Watson	2.5	99	97	95	88
Millie	Jones	2.4	23	35	40	52
Alfie	McPherson	2.6	95	67	54	58

(a) Declare a record structure to store the data in the table above.

PSEUDOCODE

```
RECORD IS pupils
        Dim forename as string
        Dim surname as string
        Dim class as string (real accepted also)
        Dim shape as integer
        Dim measure as integer
        Dim time as integer
        Dim arithmetic as integer
END RECORD
```

VISUAL BASIC

```
STRUCTURE pupils
        Dim forename as string
        Dim surname as string
        Dim class as string (real accepted also)
        Dim shape as integer
        Dim measure as integer
        Dim time as integer
        Dim arithmetic as integer
END STRUCTURE
```

(b) Declare an array of records to store date for 200 pupils

Dim results(200) as pupils [199 also accepted]

(c) The data file is named pupils.txt. Using a programming language of your choice, write code that will read the data in from file and store in the array of records declared in part (b).

PSEUDOCODE

```
Open file pupils.txt
For index = 0 to 199
        Input results(index).forename
        Input results(index).surname
        Input results(index).class
        Input results(index).shape
        Input results(index).measure
        Input results(index).time
        Input results(index).arithmetic
Next
Close file
```

VISUAL BASIC

```
Filename = “pupils.txt”
Fileopen(1, filename, openmode.input)
For index = 0 to 199
        Input(1, results(index).forename)
        Input(1, results(index).surname)
        Input(1, results(index).class)
        Input(1, results(index).shape)
        Input(1, results(index).measure)
        Input(1, results(index).time)
        Input(1, results(index).arithmetic)
Next
Fileclose(1)
```

EXAMPLE 2 – Writing data out to file

Write out the average test mark to a file named **average.csv**.

PSEUDOCODE

```
Open file average.csv
For index = 0 to 199
        Average=results(index).shape+results(index).measure+results(index).time+ results(index).arithmetic
        Send average to FILE
next
Close file
```

VISUAL BASIC

```
Filename = “Average.csv”
Fileopen(2, filename, fileopen.output)
For index = 0 to 199
    Average=results(index).shape+results(index).measure+results(index).time+ results(index).arithmetic
    Writeline(2, average)
next
Fileclose(2)
```