# Homework 6 File and exception handling

# A school needs a program to record match scores for 10 schools. Each school has a name and each school can record a number of wins with values 0 to 20. The data needs to be stored permanently on drive C: of the teacher’s PC. The program should display a menu offering the choices 1-3 and after branching to appropriate subroutines for choices 1 or 2, re-display the menu.

**1 Enter and save new data**

**2 Load and display data**

**3 Quit**

#  Where appropriate, use range checks and exception handling to catch data entry errors.

SUB menu()

 OUPUT “Select from the following:”

 OUTPUT “1 Enter and save new data”

 OUTPUT “2 Load and display data”

 OUTPUT “3 Quit”

 response 🡨 USERINPUT

 WHILE response <1 or response > 3

 OUTPUT “Error… enter number 1 to 3”

 response🡨USERINPUT(“Error … enter a number between 1 and 3: ”)

 ENDWHILE

 RETURN response

ENDSUB *(4 marks)*

SUB getAndSaveData(filename)

 matchFile = filename

 DEFINE matchRecord as two fields, school and wins

 OPEN matchFile for writing

 FOR index = 1 TO 10

 valid 🡨FALSE

 OUTPUT “Enter school”

 school 🡨USERINPUT

 WHILE valid = FALSE

 TRY

 OUTPUT “Enter wins”

 wins 🡨 USERINPUT

 WHILE wins < 0 or wins > 20

 OUTPUT “Enter wins from 0 to 20”

 wins 🡨 USERINPUT

 ENDWHILE

 valid 🡨TRUE

 EXCEPT

 “Please enter an integer”

 ENDEXCEPT

 ENDWHILE

 WRITE (matchFile, matchRecord)

 ENDFOR

 CLOSE matchFile

ENDSUB *(8 marks)*

SUB readAndDisplay(filename)

 DEFINE matchRecord as two fields, school and wins

 matchFile = filename

 OPEN matchFile for reading

 FOR index 🡨1 to 10

 READ (matchFile, matchRecord)

 OUTPUT (school, wins)

 ENDFOR

 CLOSE matchFile

ENDSUB *(4 marks)*

#\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* main program \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

filename🡨”C:/teamScores.txt”

WHILE choice >=1 and <= 3

 choice🡨 menu()

 CASE choice of

 1: getAndSaveData(filename)

 2: readAndDisplay(filename)

 3: OUTPUT (”You have chosen to end the program”) *(4 marks)*

 ENDCASE

 ENDWHILE

**nb** *The alternative solution below reads the data into an array, to show a different method from the one shown in the worksheet.*

SUB menu()

 OUPUT “Select from the following:”

 OUTPUT “1 Enter and save new data”

 OUTPUT “2 Load and display data”

 OUTPUT “3 Quit”

 response 🡨 USERINPUT

 WHILE response <1 or response > 3

 OUTPUT “Error… enter number 1 to 3”

 response🡨USERINPUT(“Error … enter a number between 1 and 3: ”)

 ENDWHILE

 RETURN response

ENDSUB

SUB getData(school,wins)

 FOR index = 1 TO 10

 valid 🡨FALSE

 OUTPUT “Enter school”

 school[index] 🡨USERINPUT

 WHILE valid = FALSE

 TRY

 OUTPUT “Enter wins”

 wins[index] 🡨 USERINPUT

 WHILE wins [index] < 0 or wins[index] > 20

 OUTPUT “Enter wins from 0 to 20”

 wins[index] 🡨 USERINPUT

 ENDWHILE

 valid 🡨TRUE

 EXCEPT

 “Please enter an integer”

 ENDEXCEPT

 ENDWHILE

 ENDFOR

ENDSUB

SUB save(school, wins, filename)

 matchfile = filename

 OPEN matchfile for writing

 FOR index 🡨1 to 10

 WRITE (matchfile, school(index))

 WRITE (matchfile, wins(index))

 ENDFOR

 CLOSE matchfile

ENDSUB

SUB loadAndDisplay(school, wins, filename)

 matchfile = filename

 OPEN matchfile for reading

 FOR index 🡨1 to 10

 READ (matchfile, school(index))

 READ (matchfile, wins(index))

 OUTPUT (school[index], wins[index])

 ENDFOR

 CLOSE matchfile

ENDSUB

#\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* main program \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

school[“”,“”,“”,“”,“”,“”,“”,“”,“”,“”,]

wins[0,0,0,0,0,0,0,0,0,0]

filename🡨”C:/teamScores.txt”

WHILE choice >=1 and <= 3

 choice🡨 menu()

 CASE choice of

 1: getData(school,wins)

 save(school,wins, filename)

 2: loadAndDisplay(school, wins, filename)

 3: OUTPUT (”You have chosen to end the program”)

 ENDCASE

 ENDWHILE

 [Total 20 Marks]

**See Python/VB programs H6 School match scores.py/vb**