# 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**