Tutorial 2

Homework revision

Lecture revision

1. What is data type and why it’s needed.
2. Operators
3. Variable declaration and assignment

Programming exercise I – Interest calculator

Create a user interface for the following problem.

User should be able to enter his/her name as well as the amount of money he/she wants to deposit. User should be able to enter the interest rate. By pressing the button the program should produce a report which will include the following information:

* Client's Name
* Amount of deposit
* Interest rate
* Amount after the interest has been applied
* Thank you message

Programming exercise II– Calculator project

1. Create new Windows application called SimpleCalculator
2. Add two text boxes to the form – end users will enter two numbers to make operations on
3. Add one button for each of the following operation
   1. +
   2. –
   3. \*
   4. /
   5. %
   6. ^
4. Put a label for displaying result

You should bind functionality to the controls so that then user clicks on a button, the label will display the result of operation taking the value entered into textboxes as operands

E.g. if user enters 2 and 3 into text boxes and clicks on “\*” button, the label should display 6.

Programming exercise III – Exchanger

1. Create new Windows application called Exchanger
2. Add two text boxes to the form – end users will enter amount to exchange and exchange rate
3. Add a button and make perform the conversion (divide the amount to exchange over the exchange rate and show the result to user)
4. Add code to round the result to the nearest whole number
5. Amend the code to round to the nearest 100

Home work

Programming exercise I – The strange language

Your task is to create an English-Elbonian dictionary.

It is known that Elbonian words have the same meaning as English words but have different spelling. In order to translate from English to Elbonian you should concatenate 2nd part of an English word with its first part.

For example, in order to translate word “work” in Elbonian we have to split original word into parts “wo” and “rk” and then put second part before the first one: “rkwo”.

It the word has odd number of letters you should take less for the first part and more for the second e.g.

“power” -> “po” + “wer” -> “werpo”

Hints:

1. Use String.Length function to find out the length of a word
2. Use Math.Floor to take less letters for the first half
3. Use String.Substring to take parts of words

Programming exercise II – Calculator project

1. Enhance the program so that result is given in the following way

2 \* 3 = 6

i.e. with the operands, operator and result

1. Enhance the program to check if user has input anything into textboxes before conducting evaluation
2. Check if the values entered into textboxes are numeric. In case of empty input the program should give notification via msgbox and do not calculate result
3. Let’s assume that operations are allowed on integers only. Check if the input is integer. Use the following algorithm:
   1. Check if the input is numeric
   2. Cast input to double
   3. Check for integer using Math.Round() or Math.Floor() and Math.Ceiling()