Course number : 420-CT2-AS

ORIENTED OBJECT PROGRAMMING

Teacher : Maftei Mihai

Weighting Section1:	**10% out of 30%**	Group :	**07222**
Points number:	**100**	Submit before :	**2023-11-10**
Weighting Section2:	**10% out of 30%**	Group :	**07222**
Points number:	**100**	Submit before :	**2023-11-23**
Weighting Section3:	**10% out of 30%**	Group :	**07222**
Points number:	**100**	Submit before :	**2023-12-07**
Presentation :	**2023-12-11 or before**	Session :	**Fall 2023**

STATEMENT OF THE COMPETENCY

- To use object-oriented development approach (016T)

REQUIRED COMPETENCIES FOR THE PROJECT

1. To create an object model
2. Refine the object model.
3. To program a class
4. To ensure that the class functions correctly

DIRECTIVES

- **Open book and notes.**

INSTRUCTIONS

This project has 7 sections.

The application has 7 Forms, and 1 document evaluated like this:

Form 1 Dash Board	**Form 2 & 3** Lotto Max + Lotto 649	**Form 4 & 5** Money Conversion + Temperature Conversion	**Form 6** IPv4 & IPv6 Validator	**Form 7** Simple Calculator	**Docs** Technical and user document	**Presentation** **2023-12-08-11** (10/15 min.)	**Total**
5 points	**20 points**	**10+10points**	**10points**	**15points**	**15 points**	**15 points**	**100 p**

Section 2 - Form 4 - The Money Exchange application (10 points)

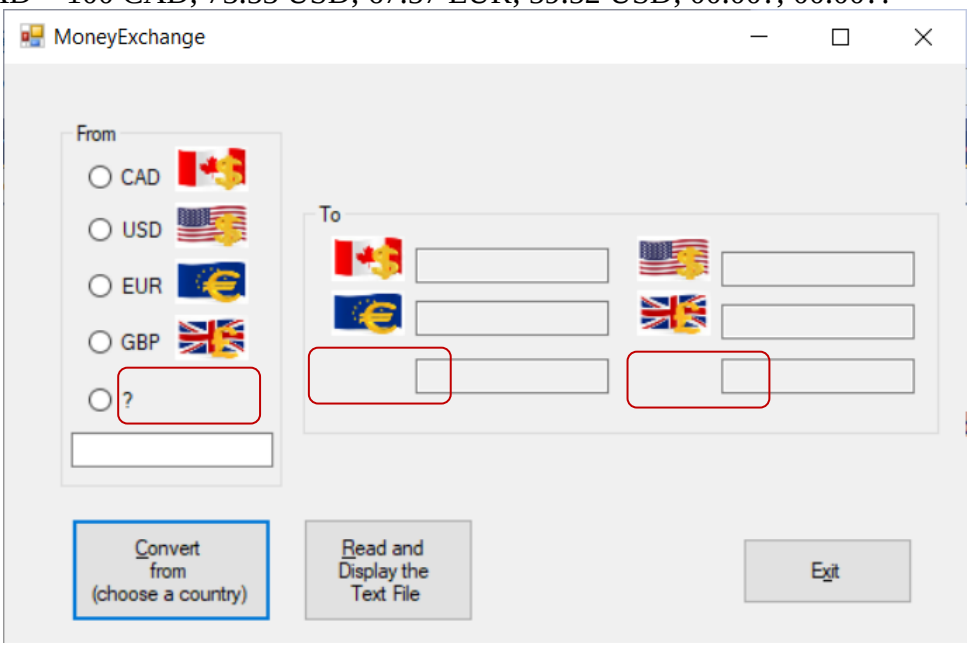
Add another currency of your choice, use the exchange factor, you find it on the Internet (save it as a comment + the date).

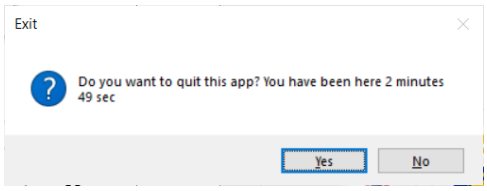
The choice of 4 + 1 exchange currencies should be presented by using radio buttons and allow the user to enter a valid amount into a text box (left) and presenting the converted amount into the read only TextBox (right).

Add another country of your choice on the fifth position. Search and add a flag image on the right side for each country.

Save the conversion into a text file **MoneyConversions.txt** (one conversion per line. Identify the currency from/ to and add the current date and time.) and into a binary file **MoneyConversionsB.txt**

Example:
2023/11/29 9:57:33 AM
100 CAD = 100 CAD; 73.53 USD; 67.57 EUR; 59.52 USD; 00.00?; 00.00??





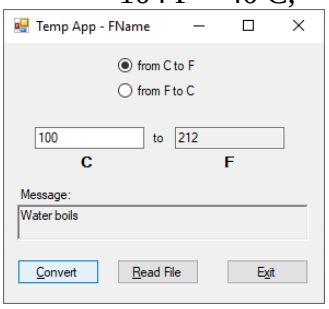
Use: Try and Catch, Regular Expressions and FileStream, StreamReader, StreamWriter BinaryWriter, BinaryReader classes objects
Read and show the text file content using a message box. Add pertinent information into the message box and add the appropriate title + your name as title.
Upload (zip) before 20-Nov – Section2 + the document Technical - User manual

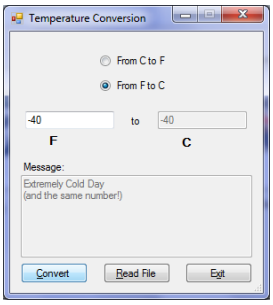
Section 2 - Form 5 - The Temperature application (10 points)

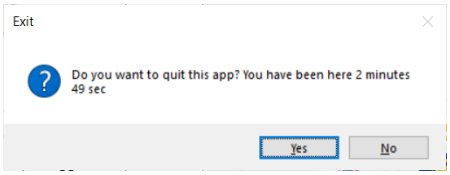
The choice of 2 possible temperature conversions should be presented to the user by using radio buttons and allow him to enter the valid value into a text box and presenting the corresponding temperature into the read only TextBox. Into the Message read only text box, write the appropriate message description (see the table on the next page). Also save the temperature conversion into a text file **TempConversions.txt** (one conversion per line. Identify the conversion from/ to and add the current date and time and into a binary file **TempConversionsB.txt**.

Example:

100 C = 212 F, 2023/7/22 01:01:33 PM Water Boils
104 F = 40 C, 2023/7/22 10:07:03 PM Hot Bath







Read and show the text file content using a message box. Add pertinent information into the message box and add the appropriate title + your name as title.
Use try and catch to validate data and show clear messages to the user.

Formula for temperature conversion:

Celsius to Fahrenheit: $(°C \times {}^{9}/_{5}) + 32 = °F$
Fahrenheit to Celsius: $(°F - 32) \times {}^{5}/_{9} = °C$

Example:

°C	°F	Message description
100	**212**	Water boils
40	**104**	Hot Bath
37	**98.6**	Body temperature
30	**86**	Beach weather
21	70	Room temperature
10	**50**	Cool Day
0	**32**	Freezing point of water
−18	0	Very Cold Day
−40	**−40**	Extremely Cold Day (and the same number!)
(**bold** are exact)		

Use: Try and Catch, Regular Expressions and FileStream, StreamReader, StreamWriter, BinaryWriter, BinaryReader objects. Change the color for different temperatures (red for hot, yellow and green for comfortable temperatures, blue and black for cold temperatures)

- Upload (zip) before 24-Nov – Section2 + the document Technical - User manual

The schedule for submiting your project:

- before 10-Nov – Section1
- before 24 Nov – Secton2
- before 8 Dec – Section3

Thank you.