

Project Topics

Choose one of the following topics to work on.

Points varies according to the difficulty level of the project.

Project can be done in group of 2.

When returning the source code make sure you run all cells and you have included a testing also.

Remember to add markdown cell to make your code understandable. Describe your task, goal of the project and finalise it with a short conclusion.

1. Tic-Tac-Toe

This game is very popular and even fun to build as a Python project.

The game:

It is a two-player game and consists of a nine-square grid. Each player chooses their move and with O or X and marks their square one at each chance. The player who succeeds in making their marks all in one line whether diagonally, horizontally, or vertically wins. The challenge for the other player is to block the game for their opponent and also to make their chain.

Try to create a basic game what can be playd once at least and will display which player is the winner.

35 points

2. Calculator

Build a program that can be used as a basic calculator. Your program should have a menu displayed for the user to choose from, where are listed basic operations: addition, subtraction multiplication, division, second power, square root, exit.

The program should allow user to choose the desired operation over and over again until user chooses to quit using it.

30 points

3. Convertor

Create a program that can be used to convert temperature, length, weight, pressure.

Your program should have a menu displayed for the user to choose from, where are listed the conversion options:

temperature

fahrenheit to celsius

celsius to fahrenheit

length

miles to km

km to miles

weight

pound to kilograms

kg to pound

exit

The program should allow user to choose the desired conversion over and over again until user chooses to quit using it.

30 points

4. Phone book

Create a program that can edit a phone book as an external file.

Your program should have a menu displayed for the user to choose from, where are listed the options:

Enter new entry

Delete an existing one

Change phone number

Display the phone book

Exit

The program should allow user to choose the desired operation over and over again until user chooses to quit using it.

30 points

5. Hangman

The game:

One player thinks a word and the other needs to guess it. Every time is a wrongly guessed letter, the other player will start to draw the hanged man picture. The player who is trying to guess, wins if the hanged man picture is not finalized.

The program should have the following options to choose from: fruits, animals, car brands, countries. Each category should contain at least 15 words to randomly choose from. The player should be able to select the category and then game starts.

The program should allow user to play over and over again until user chooses to quit using it. When the game has stopped the program should display number of plays and number of wins.

35 points

Hints

- Solve your program using functions or classes (any programming paradigm is right for you)
- Comment your code in markdown cells or code cells
- Describe the task and the algorithm of solving it
- Prepare a readable and well explained notebook
- Include your team member name also
- Submit your work individually