

Automated Employee Engagement

Project Objectives:

The objective of the project is to develop an automated, console-based game hub, a portal to digital delight at the tap of a key.

You are expected to apply the Python basic coding skills to write programs gathered during previous all sprints for this project. Python basic codes will be used based on the requirements provided.

The objective of this sprint is to develop console-based games: arithmetic puzzle game and riddle-based puzzle game. Perform project tasks mentioned in following slides to develop the games.

Christine Fernandes, the effervescent HR manager in an IT company, wants to engage and refresh the employees from their routine and packed working hours with a secret weapon - Fun Friday. Every week, Christine transforms the sleek conference room into a playground for weary minds. She wants an automated application to run console-based computer games with options. One Friday, her vision was ambitious: an automated, console-based game hub, a portal to digital delight at the tap of a key.

Help her by developing the automated hub of the code of Friday fun, one pixelated adventure at a time.

The manager has shared his requirements and gaming application as following. The programs should be re-usable in any part of the project.

Application must consist of a set of console-based gaming programs:

Part 1: Creating program to develop arithmetic puzzle game and riddle-based puzzle game.

Part 2: Creating program to develop rock paper scissors game.

Part 3: Creating program to develop Word guessing game.

Plug all the programs developed in Part 1, 2 and 3 into a menu driven application where all the programs will be called through function calls.

Part 1

Task 1:

Write a program to develop a simple console-based computer brain teaser, riddle logic puzzle, text-based puzzles involving wordplay, logic and lateral thinking game in Python. The program will randomly choose a riddle question from a list of riddles (question-answers dictionary) provided in the program.

The program will accept answer from user and check with the corresponding available answer. If both are correct then, it will print the prompt 'Correct', else it will print 'Incorrect' and will provide the correct answer.

The program will run infinite turns to solve multiple riddles with the play again option. The program should print the percentage of the score when user leaves the game.

Task 2:

Write a program to develop a simple console-based computer brain teaser, arithmetic logic puzzle, problem solving game in Python. The program will randomly (any number between 1 to 20) generate two numeric numbers and an arithmetic operator ('+', '-', '/', '*').

The program will run infinite turns to solve the arithmetic puzzle with the play again option. The program should print the percentage of the score when user leaves the game.

Task 3:

Define two functions as follows:

1. playRiddlePuzzle()- Wrap the function according to task 1
2. playArithmeticPuzzle()- Wrap the function according to task 2

Part 2

In continuation of developing arithmetic puzzle and riddle-based puzzle games to engage and refresh the employees from their routine and packed working hours, now, in this sprint, create programs to develop rock paper scissors games.

In project – part 1, programs have been created to develop arithmetic puzzle game and riddle-based puzzle game. Let's create more programs related to rock paper scissors game in this part of the project.

Perform the tasks mentioned in following tasks to accomplish the objective of this part of the project.

Game Rules:

As you probably know, Rock-Paper-Scissors is a hand game for two or more players. Participants say “rock, paper, scissors” and then simultaneously form their hands into one of these shapes: a rock (a fist), a piece of paper (palm facing downward), or a pair of scissors (two fingers extended).

The rules are straightforward:

Rock smashes scissors.

Paper covers rock.

Scissors cut paper.

Task 1:

Think about how the rules of the game can be translated to Python code and build the Rock-Paper-Scissors game using Python. Player 1 is the computer (random event generator) in the Rock-Paper-Scissors game.

Task 2:

The same game will be played by 2 users (not computer). The code should accept names of users. The name of winner should also be displayed.

Example:

Hello user1! Enter your name: John

Hello user2! Enter your name: Eva

Hello user1! Enter a choice (rock, paper, scissors): rock

Hello user2!Enter a choice (rock, paper, scissors): paper

Paper covers rock! Eva win!

Task 3:

Define two functions as follows:

1. `playRPSWithComputer()`- Wrap the function according to task 1
2. `playRPSWithUser()`- Wrap the function according to task 2

Part 3

In continuation of developing different games such as arithmetic puzzle game, riddle-based puzzle game, and rock paper scissors game, now, in this sprint, create programs to develop word guessing games. Plug all the programs developed in Part 1, 2 and 3 into a menu driven application where all the programs will be called through function calls.

In project – part 1, programs have been created to develop arithmetic puzzle game and riddle-based puzzle game. In project – part 2, programs related to rock paper scissors game have been created and wrapped in functions.

Let's create more programs related to word guessing game in this part of the project and plug all the programs developed in Part 1, 2 and 3 into a menu driven application where all the programs will be called through function calls.

Perform the tasks mentioned in following tasks to accomplish the objective of this part of the project.

Task 1:

One of the games planned is a word guessing game, a type of puzzle game where employees attempt to guess a secret word from a provided list by making a series of guesses.

Write a Python code to develop word guessing game where employees attempt to guess a secret word from a provided list by making a series of guesses. Clues, such as the optional information about the number of letters or characters in the word, can be given to assist in the guessing process.

Task 2:

`wordguessinggame()`- Wrap the function according to task 1

Task 3:

Define a function named menu() which will print the following options of the application:

1. Play Riddle Puzzle.
2. Play Arithmetic Puzzle.
3. Play Rock-Paper-Scissor game with computer.
4. Play Rock-Paper-Scissor game with a user.
5. Play Word-Guessing game with Computer.

Enter your any option in number between 1 to 5:

Task 4:

Finally, write the main program and find the behavior of the program as mentioned below:

1. Program will start by printing application menu
2. Program will ask user to accept option in number between 1 to 5.
3. If user enters option value as 1, then, execute the program to play riddle puzzle.
4. If user enters option value as 2, then, execute the program to play arithmetic puzzle.
5. If user enters option value as 3, then, execute the program to play rock paper scissors game with computer
6. If user enters option value as 4, then, execute the program to play rock paper scissors game between users.
7. If user enters option value as 5, then, execute the program to play word guessing game.
8. If user enters any value (except between 1 to 5), then program will display 'You have entered wrong option'.
9. The program will ask to accept user's choice (Y/y for Yes or N/n for No) either to repeat the menu to play another game or quit the main program.