

CMSC12 Project

Your project is worth 15% of your final grade. However, there are additional specifications that can give you up to 17% for your project. In the case of excess, the 1-2% can be carried over/added to the lecture component.

In this project, you will be using **Python**. You get to choose one of the two problem domains below. Both options have a feature to **save and display top players data using files**. These are one-player games with an imaginary opponent/player that reacts to the player's actions. You will need to write a code for generating a **random number** to set opponent move/s randomly. One way to generate a random number in python is as follows: `random.randint(a,b)`. The code returns a number N in the inclusive range [a,b], meaning a $\leq N \leq b$, where the endpoints are included in the range. The N is a number that can represent opponent action (e.g. 0 = "rock"; or 0 = "punch", depending on the game you chose).

Choose a project topic from the following (two) options:

Option 1. Simple fighting game

Mechanics of the game: This is a simple fighting game where a player makes an offensive move to inflict damage on an opponent/enemy. This is a one-player game where the opponent is played by the computer which, in turn, fights back by randomly determining its next move. Both player's health level starts at 125 and are reduced depending on the fight action's damage level.

The game starts by asking for the user's name and desired character: Boxer, Muay Thai, and Street fighter. The game (proper) then proceeds by asking the user to choose from the following moves: Punch, Kick, and Grapple. The levels of damage are as follows: Punch (min 25 to max 50, Kick (min 20 to max 40), and Grapple (min 15 to max 30). In return, the opponent fights back using a randomly determined fight action. Each of the player's health is reduced depending on the fight action. The game ends when either of the player's health reaches less than or equal to zero (when health falls below 0, display 0). When a player's health reaches zero, the other player is declared the winner and the game ends. See sample run below.

To get full 15%:	The user is able to play the game from start to finish. All game rules are followed and program requirements are met.
To get full 16%:	Implement a different theme (define your own character types, moves) and submission is noticeably creative with how the game is presented; Ascii text present (+0.25)
To get full 17%:	With feature to show top players. Top player is determined by recording the remaining health level after winning the game. The higher the health level the better.

Sample program run:

Simple fighting game

Mechanics of the game:

Your name: Mylah

```
,-----FIGHT NIGHT-----,
|
|  -----
|          SIMPLE FIGHTING GAME
|  -----
|          Select a fighter:
|          [1] Boxer
|          [2] Muay Thai
|          [3] Street fighter
|
|          Other options
|          [8] High scores
|          [9] Restart
|          [0] Exit
|  -----
```

Choice: 1

```
  _/ \_ _ _ _ _ _/ _ _/ _ _ _ _ _ _/
/_;/_||/_||/_'\_/_||/_/_'\_/_||/_||/
```

Choose your move

```
,-----FIGHT NIGHT-----,
|
|  -----
|          PLAYER (Boxer)
|  -----
|          HEALTH: 125/125
|  -----
|          ENEMY
|  -----
|          HEALTH: 125/125
|
|          [1] Fight
|          [9] Restart
|          [0] Exit
|  -----
```

Choice: 1

```
,-----FIGHT NIGHT-----,
|
|  -----
|          PLAYER (Boxer)
|  -----
```

```

|           HEALTH: 108/125           |
|           Action: Punch              |
|           Damage dealt to enemy: 20  |
| -----                             |
|           ENEMY                      |
| -----                             |
|           HEALTH: 120/125           |
|           Enemy fought back!         |
|           Enemy used: Grapple (Damage dealt:17) |
|                                     |
|           Other options              |
|           [9] Restart                |
|           [0] Exit                   |
| -----                             |
Choice: 1

```

```

| -----FIGHT NIGHT-----          |
|                                     |
| -----                             |
|           PLAYER (Boxer)            |
| -----                             |
|           HEALTH: 88/125            |
|           Action: Kick              |
|           Damage dealt to enemy: 22  |
| -----                             |
|           ENEMY                     |
| -----                             |
|           HEALTH: 98/125            |
|           Enemy fought back!         |
|           Enemy used: Punch (Damage dealt:20) |
|                                     |
|           Other options              |
|           [9] Restart                |
|           [0] Exit                   |
| -----                             |
Choice: 1

```

```

| -----FIGHT NIGHT-----          |
|                                     |
| -----                             |
|           PLAYER (Boxer)            |
| -----                             |
|           HEALTH: 66/125            |
|           Action: Grapple           |
|           Damage dealt to enemy: 17  |
| -----                             |
|           ENEMY                     |
| -----                             |
|           HEALTH: 81/125            |
|           Enemy fought back!         |
|                                     |

```

Choice:

Case 1: You win

Congratulations Mylah! You are one of the top players.
Score saved.

Choice: 9

```

-----FIGHT NIGHT-----
|
|  -----
|
|          PLAYER (Boxer)

```

```

| -----|
|      HEALTH:   0/125|
|      Action: Grapple|
|      Damage dealt to enemy: 21|
| -----|
|      ENEMY|
| -----|
|      HEALTH:   43/125|
|      Enemy fought back!|
|      Enemy used: Kick (Damage dealt:18)|
| -----|
|      ENEMY HAS WON|
| -----|
|      Other options|
|      [9] Restart|
|      [0] Exit|
| -----|

```

Choice: 9

Back to main menu

```

| -----FIGHT NIGHT-----|
| -----|
|      SIMPLE FIGHTING GAME|
| -----|
|      Select a fighter:|
|      [1] Boxer|
|      [2] Muay Thai|
|      [3] Street fighter|
| -----|
|      Other options|
|      [8] Top players|
|      [9] Restart|
|      [0] Exit|
| -----|

```

Choice: 8

```

| -----FIGHT NIGHT-----|
| -----|
|      Top players|
| -----|
|      MYLAH    20|
|      RYAN     15|
|      CARLO    14|
| -----|
|      Other options|
|      [9] Restart|
|      [0] Exit|
| -----|

```

Choice: 9

Choice: 0

[illegible]

Mechanics of the game: This is a one-player game where the player chooses from the following moves: Rock, Paper, and Scissors. The computer, in turn, responds by using a randomly determined move. Both player's scores start with 0, and 1 point is added for every win. The first to get 5 points wins.

To get full 15%:	The user is able to play the game from start to finish. All game rules are followed and program requirements are met.
To get full 16%:	Implement a different theme (define your own character types, moves) and submission is noticeably creative with how the game is presented; Ascii text present (+0.25)
To get full 17%:	With feature to show top players. Top players are determined by recording the number of rounds/games it took to win the game. The lower the number, the better

Sample program run:

Simple fighting game

Mechanics of the game:

Your name: Mylah

```
,-----ROCK PAPER SCISSORS-----,
|
| -----
|          PLAYER 1
| -----
|          SCORE:   0
|          [1] Rock
|          [2] Paper
|          [3] Scissors
|
| -----
|          PLAYER 2
| -----
|          SCORE:   0
|
|          Other options
|          [9] Restart
|          [0] Exit
|
|-----,

```

Choice: 1

```
,-----ROCK PAPER SCISSORS-----,
|
| -----
|          PLAYER 1
| -----
|          SCORE:   1
|          [1] Rock
|          [2] Paper
|          [3] Scissors
|          Last move: Rock
|
| -----
|          PLAYER 2
| -----
|          SCORE:   0
|          Last move: Scissors
|
| -----
|          WIN
| -----
|
|          Other options
|          [9] Restart
|
|-----,

```

```
| [0] Exit |
|-----|
Choice: 2
```

```

-----ROCK PAPER SCISSORS-----

-----
                        PLAYER 1
-----
                        SCORE:    2
                        [1] Rock
                        [2] Paper
                        [3] Scissors
                        Last move: Paper
-----

                        PLAYER 2
-----

                        SCORE:    0
                        Last move: Rock

-----

                        WIN
-----

                        Other options
                        [8] Restart
                        [9] Restart
                        [0] Exit

```

Choice: 3

```

-----ROCK PAPER SCISSORS-----
-----
                        PLAYER 1
-----
                        SCORE:    2
                        [1] Rock
                        [2] Paper
                        [3] Scissors
                        Last move: Scissors
-----
                        PLAYER 2
-----
                        SCORE:    1
                        Last move: Rock
-----
                        LOSE
-----

                        Other options
                        [8] Restart

```



```

|               [9] Restart               |
|               [0] Exit                   |
|-----|

```

Choice:

((Fast forward))

Case 1. You win

```

,-----ROCK PAPER SCISSORS-----,
|
|-----|
|               PLAYER 1               |
|-----|
|               SCORE:    5             |
|               [1] Rock                 |
|               [2] Paper                 |
|               [3] Scissors              |
|               Last move: Paper          |
|-----|
|               PLAYER 2                 |
|-----|
|               SCORE:    1             |
|               Last move: Rock           |
|
|-----|
|               WIN                      |
|-----|
|
|               Other options            |
|               [8] Restart              |
|               [9] Restart              |
|               [0] Exit                  |
|-----|

```

5 points reached, we have a winner

```

Game 1 WIN
Game 2 WIN
Game 3 WIN
Game 4 LOSE
Game 5 No score (same move)
Game 6 WIN
Game 7 WIN

```

Congratulations Mylah! You are one of the top players.
Player name saved.

```

      | |
      | |
  /  /  \  \  /  /  \  \  /  /  \  \
 | ( ) ( ) | | | ( ) | | | ( ) | | \
 \  \  /  /  \  \  /  /  \  \  /  /
      /  /
      /

```

Choice:

Case 2. You lose

```

-ROCK PAPER SCISSORS-

-----
                PLAYER 1
-----
                SCORE:    3
                [1] Rock
                [2] Paper
                [3] Scissors
                Last move: Scissors
-----

                PLAYER 2
-----
                SCORE:    5
                Last move: Rock
-----

                LOSE
-----

                Other options
                [8] Top players
                [9] Restart
                [0] Exit

```

5 points reached, we have a winner

Game 1 WIN
Game 2 WIN
Game 3 WIN
Game 4 LOSE
Game 5 No score (same move)
Game 6 LOSE
Game 7 LOSE
Game 8 LOSE
Game 9 LOSE

Thank you for playing, Mylah!

[illegible]

Choice: 8

Choice: 0

[illegible]