

# Python Project Descriptions & Functionality

## Mario

---



Implement a program that prints out a half-pyramid of a specified height, per the below.

```
$ ./mario
Height: 4
#
##
###
####
```

## Cash

---

Implement a program that calculates the minimum number of coins required to give a user change.

```
$ python cash.py
Change owed: 0.41
4
```

## Readability

---

Implement a program that computes the approximate grade level needed to comprehend some text, per the below.

```
$ python readability.py
Text: Congratulations! Today is your day. You're off to Great Places!
You're off and away!
Grade 3
```

## DNA

---

Implement a program that identifies a person based on their DNA, per the below.

```
$ python dna.py databases/large.csv sequences/5.txt
Lavender
```

## Flask Server Python Game

---

Open all the source code in an IDE of your choosing and type `flask run` in the terminal and follow the link the server provides.

### Connect 4

Select the Connect4 game from the homepage by clicking the blue and yellow button. This should redirect to the Connect4 page with an empty board.

The player that goes first is randomly chosen. Whenever the loading circle appears, this indicates the bot is deciding where to move. When the loading circle disappears, it is the user's turn to move.

To move, use the mouse and click on the column you wish to drop a piece on the Connect4 board. An 'O' will appear in the appropriate location.

A message indicating the result of the game will appear at the top of the screen once the game is complete.

To replay or choose another game, click the Back button, which will return to the home screen.

### **Tic-Tac-Toe**

Select the Tic-Tac-Toe game from the homepage by clicking the blue and yellow button. This should redirect to the Tic-Tac-Toe page with an empty board.

The player that goes first is randomly chosen. Whenever the loading circle appears, this indicates the bot is deciding where to move. When the loading circle disappears, it is the user's turn to move.

To move, use the mouse and click in the location that you wish to move on the 3x3 board, an 'O' should appear instantly.

A message indicating the result of the game will appear at the top of the screen once the game is complete.

To replay or choose another game, click the Back button, which will return to the home screen.