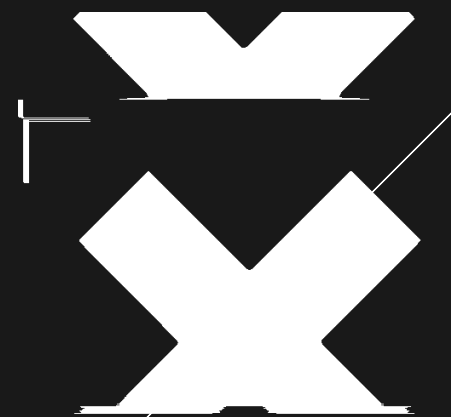




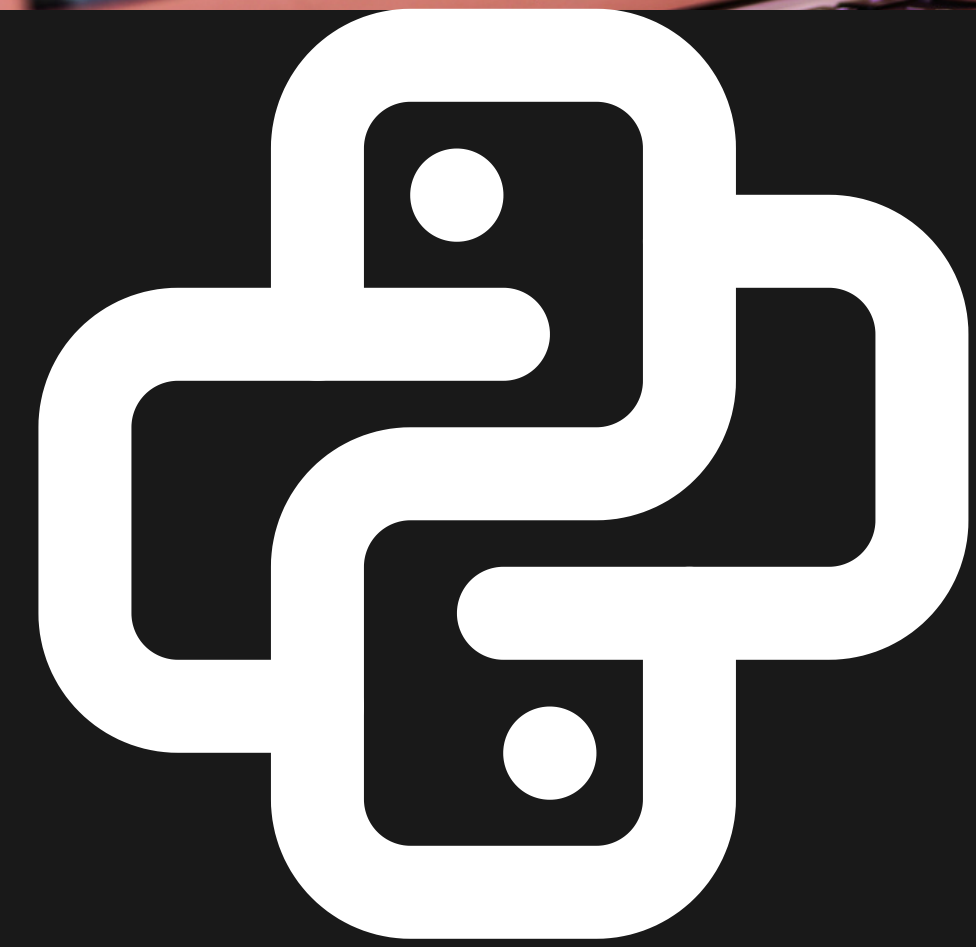
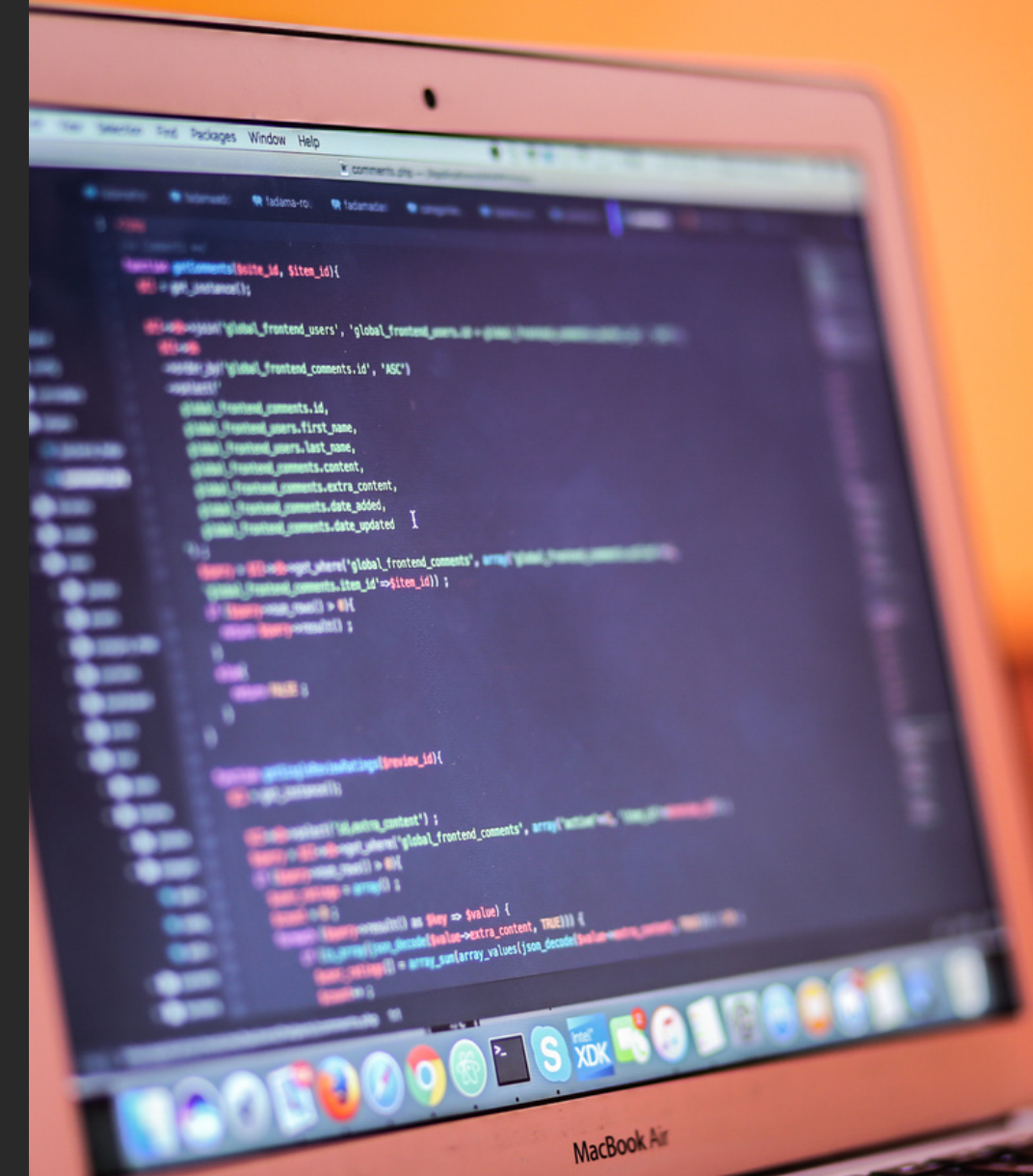
PROGRAMMING WITH PYTHON- I

- Aaditi Bhosale
- Neha Azad
- Sakshi Dhuri
- Wasim Ansari
- Anirudh Suresh



WHAT IS PYTHON ?

1. Python is a high-level, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation.
2. Guido van Rossum founded Python in 1991.
3. Python is dynamically-typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly procedural), object-oriented and functional programming.
4. It is often described as a "batteries included" language due to its comprehensive standard library





GAMING


WITH PYTHON





GAMING AND PYTHON

For beginner game developers, Python is a great coding language to start with for a few reasons:

- **Easy to understand syntax**
 - **Ability to reuse code**
 - **Easy to debug**
- 



EASY TO UNDERSTAND SYNTAX

- Python is one of the simplest coding languages to write and to read, making it a great starting point for all sorts of coding activities.
- Having an easy to write language is super helpful for tasks where the speed of development matters.
- For beginning coders, development speed can matter even more. Using a simpler language to make a game can be the difference between development taking days or taking weeks.
- Especially when learning, being able to see results quickly can be just the encouragement needed to keep going!





ABILITY TO REUSE CODE

- Python is an object-oriented coding language, which means that it can take a piece of prepared code and use it wherever it's needed.
- This is incredibly useful and results in many fewer lines of code in the finished game. Fewer lines of code means less time re-writing the same code throughout the project and less time spent in development overall.
- More importantly, it also gives you the ability to use code written by other developers through the use of Python's extremely large ecosystem of code libraries.





EASY TO DEBUG

- A third major reason for using Python for game development is how it makes the debugging process easier. Debugging is the process of looking for and fixing errors in your code.
- Since Python is already one of the easier coding languages to read and write, it makes sense that it would be simpler to debug than other languages, but there's more to it than just that.
- Python is what is called an interpreted language. That means that instead of being compiled before being run, the code is executed directly.



MODULES USED



RANDOM:

Python Random module is an in-built module of Python which is used to generate random numbers. These are pseudo-random numbers means these are not truly random. This module can be used to perform random actions such as generating random numbers, print random a value for a list or string, etc.

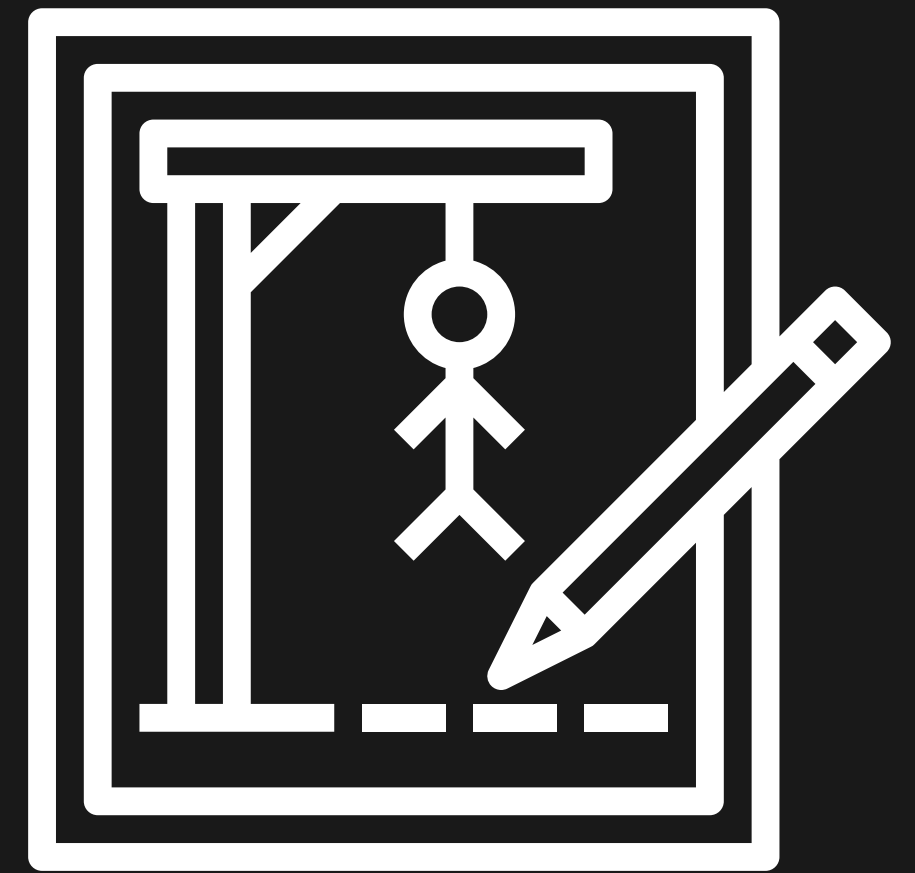
TIME:

Time module in Python is used for various time related functions in the python program. We can print time, control the time required to print the statements using `time.sleep()` function.



HANGMAN

- Hangman is a guessing game for two or more players.
- One player thinks of a word, phrase or sentence and the other(s) tries to guess it by suggesting letters within a certain number of guesses.
- The word to guess is represented by a row of dashes representing each letter of the word.
- Rules may permit or forbid proper nouns, such as names, places, brands, or slang.
- If the guessing player suggests a letter which occurs in the word, the other player writes it in all its correct positions.
- If the suggested letter does not occur in the word, the other player removes (or alternatively, adds) one element of a hanged stick figure as a tally mark.
- Generally, the game ends once the word is guessed, or if the stick figure is complete — signifying that all guesses have been used.



SOURCE CODE

```
import random
import time

# Initial Steps to invite in the game:
print("\nWelcome to Hangman game by RUIA COLLEGE FY Students\n")
time.sleep(1.5)
name = input("Enter your name: ")
print("Hello " + name + "! Best of Luck!")
time.sleep(1.5)
print("The game is about to start!")
time.sleep(1.5)

# The parameters we require to execute the game:
def level():
    global randomWord
    global wordDictionary
    global answer
    global wordDictionary1
    global wordDictionary2
    answer = input('Which level of the game would you like to play(easy/medium/hard)
?').lower()
```

SOURCE CODE

```
elif(answer=='easy'):
    randomWord = random.choice(wordDictionary)
elif(answer=='medium'):
    randomWord = random.choice(wordDictionary1)
elif(answer=='hard'):
    randomWord = random.choice(wordDictionary2)
else:
    print("Wrong Choice")
    level()

# The parameters we require to execute the game:
def main():
    global count
    global display
    global randomWord
    global already_guessed
    global length
    global play_game
    global answer
    global wordDictionary
    global wordDictionary1
    global wordDictionary2
```

SOURCE CODE

```
wordDictionary = ["college", "object", "rose", "delhi","virat","hello", "python",  
"station", "gui",'lotus']  
wordDictionary1 =  
['daffodils','tuple','directory','modules','oxford','lavender','orchid','varanasi','sydney','ro  
ssum']  
wordDictionary2 =  
['thiruvananthapuram','github','linkedin','snapseed','massachusetts','periwinkle','chrysa  
nthemum','mongodb','bakerstreet','vecna']  
### Choosing a random word from wordDictionary  
level()  
time.sleep(1)  
print("Let's play Hangman!")  
length=len(randomWord)  
count = 0  
display = '_' * length  
already_guessed = []  
play_game = ""
```

SOURCE CODE

```
# A loop to re-execute the game after the first round ends:
def play_again():
    global play_game
    play_game = input("Would you like to play again? (Yes/No)\n")
    ans = play_game.lower()
    if (ans == "yes"):
        main()
    elif (ans == "no"):
        print("Thanks For Playing! We expect you back again!")
        exit()
        play_again()

# Initializing all the conditions required for the game:
def hangman():
    global count
    global display
    global randomWord
    global already_guessed
    global play_game
    limit = 7

    guess = input("This is the Hangman Word: " + display + " Enter your guess: \n")
    guess = guess.strip()
    if len(guess.strip()) == 0 or len(guess.strip()) >= 2 or guess <= "9":
        print("Invalid Input, Try a letter\n")
    hangman()
```

SOURCE CODE

```
elif guess in randomWord:
```

```
    already_guessed.extend([guess])
```

```
    index = randomWord.find(guess)
```

```
    randomWord = randomWord[:index] + "_" + randomWord[index + 1:]
```

```
    display = display[:index] + guess + display[index + 1:]
```

```
    print(display + "\n")
```

```
elif guess in already_guessed:
```

```
    print("Try another letter.\n")
```

```
else:
```

```
    count += 1
```

```
    if count == 1:
```

```
        print(" ____ \n"
```

```
              " | | \n"
```

```
              " |  \n"
```

```
              " |  \n"
```

```
              " |  \n"
```

```
              " |  \n"
```

```
              " |  \n"
```

```
              "_|_ \n")
```

```
    print("Wrong guess. " + str(limit - count) + " guesses remaining\n")
```

SOURCE CODE

```
elif count == 2:
```

```
    print(" ____ \n"
```

```
          " | | \n"
```

```
          " | O \n"
```

```
          " |  \n"
```

```
          " |  \n"
```

```
          " |  \n"
```

```
          " |  \n"
```

```
    "_|_ \n")
```

```
    print("Wrong guess. " + str(limit - count) + " guesses remaining\n")
```

```
elif count == 3:
```

```
    print(" ____ \n"
```

```
          " | | \n"
```

```
          " | O \n"
```

```
          " | | \n"
```

```
          " |  \n"
```

```
          " |  \n"
```

```
          " |  \n"
```

```
    "_|_ \n")
```

```
    print("Wrong guess. " + str(limit - count) + " last guess remaining\n")
```

SOURCE CODE

```
elif count == 4:
```

```
    print(" ____ \n"
```

```
         " | | \n"
```

```
         " | O \n"
```

```
         " | | \n"
```

```
         " | \n"
```

```
         " | \n"
```

```
         " | \n"
```

```
         "_|_ \n")
```

```
    print("Wrong guess. " + str(limit - count) + " guesses remaining\n")
```

```
elif count == 5:
```

```
    print(" ____ \n"
```

```
         " | | \n"
```

```
         " | O \n"
```

```
         " | /| \n"
```

```
         " | \n"
```

```
         " | \n"
```

```
         " | \n"
```

```
         "_|_ \n")
```

```
    print("Wrong guess. " + str(limit - count) + " last guess remaining\n")
```


SOURCE CODE

```
elif count == 6:
    print(" ____ \n"
          " | | \n"
          " | O \n"
          " |  \n"
          " |  \n"
          " |  \n"
          " |  \n"
          "_|_ \n")
    print("Wrong guess. " + str(limit - count) + " guesses remaining\n")
```

```
elif count == 7:
    print(" ____ \n"
          " | | \n"
          " | O \n"
          " | | \n"
          " |  \n"
          " |  \n"
          " |  \n"
          "_|_ \n")
    print("Wrong guess. You are hanged!!!\n")
    print("The word was:", already_guessed, randomWord)
    play_again()
```

SOURCE CODE

```
if randomWord == '_' * length:  
    print("Congrats! You have guessed the word correctly!")  
    play_again()
```

```
elif count != limit:  
    hangman()
```

```
main()
```

```
hangman()
```

Welcome to Hangman game by RUIA COLLEGE FY Students

Enter your name: Rishi Sunak

Hello Rishi Sunak! Best of Luck!

The game is about to start!

Which level of the game would you like to play(easy/medium/hard) ?easy

Let's play Hangman!

OUTPUT

Getting it right

Let's play Hangman!

This is the Hangman Word: ____ Enter your guess:

l

--l--

This is the Hangman Word: __l__ Enter your guess:

d

d_l__

This is the Hangman Word: d_l__ Enter your guess:

e

del__

This is the Hangman Word: del__ Enter your guess:

h

delh_

This is the Hangman Word: delh_ Enter your guess:

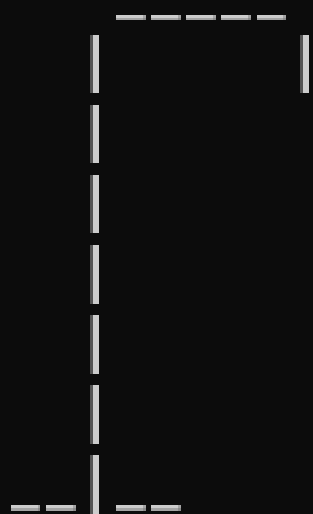
i

delhi

Congrats! You have guessed the word correctly!

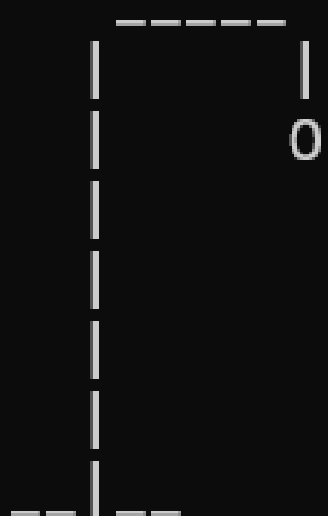
User Getting it Wrong

Let's play Hangman!
This is the Hangman Word: _____ Enter your guess:
k



Wrong guess. 6 guesses remaining

This is the Hangman Word: _____ Enter your guess:
l



Wrong guess. 5 guesses remaining

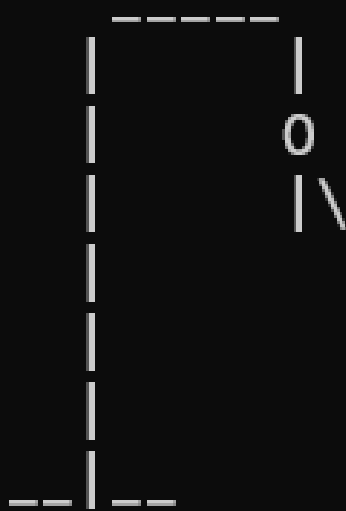
This is the Hangman Word: _____ Enter your guess:

This is the Hangman Word: _____ Enter your guess:
e



Wrong guess. 4 last guess remaining

This is the Hangman Word: _____ Enter your guess:
c



Wrong guess. 3 last guess remaining

This is the Hangman Word: _____ Enter your guess:
|

This is the Hangman Word: _____ Enter your guess:

w



Wrong guess. 2 last guess remaining

This is the Hangman Word: _____ Enter your guess:

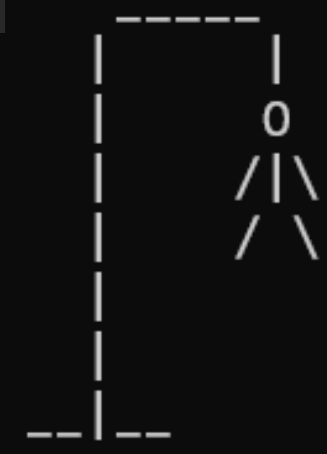
r



Wrong guess. 1 last guess remaining

This is the Hangman Word: _____ Enter your guess:

This is the Hangman Word: _____ Enter your guess:
e



Wrong guess. You are hanged!!!

The word was: [] python

Would you like to play again? (Yes/No)

yes

Which level of the game would you like to play(easy/medium/hard) ?easy

Let's play Hangman!

This is the Hangman Word: _____ Enter your guess:

|





GAME ON

