

Acknowledgement

I would like to express my heartfelt gratitude to the wonderful individuals who played an instrumental role in the completion of my "Guess the Number" Python game. Their support, encouragement, and guidance have been invaluable throughout this creative journey.

Firstly, I extend my deepest thanks to my friends who dedicated their time and enthusiasm to test the game, providing valuable feedback that greatly contributed to its improvement. Their constructive criticism and positive energy were essential to refining the user experience.

I am indebted to my teachers, whose profound knowledge and mentorship fueled my passion for programming. Their patience in answering my queries and willingness to share their expertise played a pivotal role in shaping the game's functionality and design.

A special mention goes to our esteemed principal, [Principal's Full Name], for fostering an environment that encourages exploration and innovation. Your unwavering support and belief in the potential of students have been a driving force behind the successful completion of this project.

In conclusion, I would like to express my gratitude to everyone who played a part in this endeavor. Your contributions have not only made this project possible but have also enriched my learning experience. I am truly fortunate to have such an amazing support system.

Thank you all for being a part of this exciting journey!

Certificate

This is to certify that [Your Full Name] has demonstrated outstanding creativity and programming proficiency in successfully completing the "Guess the Name" Python game.

We extend our sincere appreciation to [his/her] friends for their invaluable feedback and enthusiastic testing, contributing significantly to the refinement of the user experience. Special acknowledgment is given to [his/her] teachers, whose guidance and mentorship played a pivotal role in shaping the functionality and design of the game.

We also express our gratitude to Principal [Principal's Full Name] for fostering an environment that encourages innovation and learning. This certificate is a recognition of [Your Full Name]'s commendable efforts and the collaborative support of friends, teachers, and the school community in achieving this programming milestone.

Mrs. Arti Mehra

Synopsis

Introduction :-

Welcome to the fascinating world of numerical intuition and strategic guessing! In this Python project, we present to you the "Guess the Number" game - a captivating journey designed to challenge your cognitive abilities and foster a deeper understanding of algorithmic decision-making. This project isn't just about fun and games; it's an exploration into the realm of programming, logic, and human-computer interaction.

Features and Functions:

Single Player Mode:

The single-player mode serves as an entry point for users to familiarize themselves with the game's mechanics. It challenges the player to decipher the computer's concealed numerical choice, prompting a thoughtful analysis of potential patterns and algorithms employed in the game's logic.

Double Player Mode:

Beyond individual exploration, the double-player mode introduces an interactive element, fostering healthy competition and collaborative problem-solving. Participants take turns guessing or engage in a race to determine who can unravel the mystery of the hidden number first, promoting teamwork and strategic thinking.

Score Log:

The inclusion of a score log is not just about keeping a record of wins and losses; it's a tool for self-assessment and improvement. Users can review their past

decisions, identify recurring patterns, and refine their strategies, turning each round into a learning opportunity.

Highscore:

The pursuit of a high score elevates the stakes, encouraging users to push their boundaries and strive for excellence. The high-score feature not only celebrates achievements but also instills a sense of accomplishment and motivates players to continuously enhance their numerical prowess.

Clear Score:

Acknowledging the importance of a fresh start, the clear score function empowers users to reset their scores and approach the game with newfound insights. It symbolizes the iterative nature of learning, allowing players to embrace challenges with a clean slate and apply lessons learned from previous attempts.

Proposed System :-

The proposed system aims to introduce an innovative and engaging rendition of the classic "Guess the Number" game, leveraging Python programming to create a dynamic and educational gaming experience. The system is designed to be versatile, offering both single-player and double-player modes to cater to a diverse audience of users.

Key Features:

Enhanced User Interaction:

The game will provide an immersive and user-friendly interface, allowing players to navigate seamlessly through various modes and functionalities. The system prioritizes an intuitive design to ensure accessibility for users of all experience levels.

Educational Emphasis:

Unlike conventional guessing games, our system is developed with an educational focus. Users will not only enjoy the thrill of guessing numbers but will also have the opportunity to delve into the code structure, gaining insights into fundamental Python programming concepts. This educational component adds value to the gaming experience, making it both entertaining and instructive.

Single and Double Player Modes:

The inclusion of both single-player and double-player modes ensures versatility. Single-player mode offers a challenging experience against a computer opponent, while the double-player mode introduces a social and competitive element, allowing friends to engage in strategic battles of numerical wit.

Score Log and Highscore Tracking:

The system incorporates a comprehensive score log, enabling users to review their gaming history and track their progress. Additionally, a highscore feature adds a competitive edge, motivating players to aim for personal bests and fostering a sense of achievement.

Clear Score Functionality:

Recognizing the importance of a fresh start, the system includes a clear score function. This feature empowers users to reset their scores at any point, providing an opportunity to approach the game with renewed determination and apply lessons learned from previous rounds.

Advantages Of My Project :-

The proposed system builds upon traditional "Guess the Number" games by introducing a blend of entertainment and education. It surpasses conventional models with its dual emphasis on user experience and programming education. By incorporating features like single and double-player modes, a detailed score log, highscore tracking, and a clear score function, our system stands out as a versatile and enriching gaming platform.

Conclusion:

The proposed system is not merely a game; it is a comprehensive package designed to entertain, educate, and challenge users. With its innovative features and educational focus, our "Guess the Number" game promises a unique and rewarding experience for players of all backgrounds and skill levels.

Requirements :-

Hardware Requirements:-

- Processor: Dual-core processor or higher
- RAM: 1 GB or more
- Graphics Card: Any integrated graphics card.
- Storage: Requires Space of Maximum 50MB
- Input Devices: Keyboard and Mouse
- Output Devices : Any Monitor

Software Requirements:-

- Python 3

Future Scope :-

1. Advanced Gameplay Modes:

Explore the development of advanced gameplay modes to provide users with more diverse and challenging experiences. Consider incorporating modes with varying difficulty levels, time constraints, or unique rule sets to keep players engaged.

2. Machine Learning Integration:

Investigate the integration of machine learning algorithms to enhance the game's adaptability. Implement intelligent systems that analyze player behavior over time, adjusting the difficulty dynamically to provide a personalized and continuously challenging experience.

3. Expanded Score Analytics:

Enhance the score log feature by incorporating detailed analytics. Provide players with insights into their guessing patterns, success rates, and areas for improvement. This could include graphical representations and statistics to make the score log a valuable tool for self-assessment.

4. Global Leaderboards:

Implement global leaderboards to add a competitive element to the game. Allow players to compare their scores with others worldwide, fostering a sense of community and encouraging friendly competition.

5. Integration with Educational Platforms:

Explore partnerships with educational platforms to integrate the game into learning environments. Develop educational versions or modules that leverage the game's mechanics to teach mathematical concepts or logical reasoning in a fun and interactive way.

6. Mobile App Compatibility:

Consider adapting the game for mobile platforms, reaching a broader audience. Develop a mobile version of the game that retains its core features while optimizing the interface for smaller screens and touch controls.

7. Social Media Integration:

Integrate social media features to allow players to share their achievements, high scores, and memorable moments. Implement social media login options and shareable content to enhance the game's visibility and attract new players.

8. Augmented Reality (AR) Version:

Experiment with creating an augmented reality (AR) version of the game. Enable players to engage with the guessing challenges in their real-world environment, creating a unique and immersive gameplay experience. This can be done by generating 3-D Mysteryboxes in AR version.

9. Community Challenges and Events:

Foster community engagement by introducing periodic challenges and events. Encourage players to participate in special events with unique rules or themed challenges, creating a sense of excitement and anticipation.

10. Continuous User Feedback:

Establish a feedback loop with the user community. Encourage players to share their thoughts, suggestions, and ideas for improving the game. Regularly update the game based on user feedback to ensure a player-driven evolution of the Guess the Number experience.

The future scope of the Guess the Number game is dynamic, and these proposed enhancements aim to elevate the gaming experience, broaden its reach, and create a more interactive and engaging platform for players. Keep the spirit of innovation alive as you explore these possibilities and adapt the game to meet the evolving preferences of your audience.

Code :-

```
1 import random
2 import datetime
3
4 def guess_loop():
5     secret_number = random.randint(1, 100)
6     attempts = 0
7     while True:
8         attempts += 1
9         if attempts < 11:
10             try:
11                 guess = int(input("Enter your guess (between 1 and 100): "))
12             except:
13                 print("Please enter a integer between 1 and 100")
14                 continue
15             if guess == secret_number:
16                 print(f"Congratulations! You guessed the correct number in {attempts} attempts.")
17                 break
18             elif guess < secret_number:
19                 if secret_number - guess > 20:
20                     print("Try a very high number.")
21
22                 elif secret_number - guess > 10:
23                     print("Try higher number")
24             else:
25                 print("Just a little more, you almost got it...")
26
27             else:
28                 if secret_number - guess < -20:
29                     print("Try a very small number.")
30
31                 elif secret_number - guess < -10:
32                     print("Try smaller number")
33                 else:
34                     print("Just a little less, you almost got it...")
35
36         else:
37             print("You ran out of chances.")
38             break
39     return attempts
40
41 def score2(P1_NAME, P1_ATTEMPTS, P2_NAME, P2_ATTEMPTS):
42     P1_SCORE = 10 - P1_ATTEMPTS
43     P2_SCORE = 10 - P2_ATTEMPTS
44
45     if P1_SCORE < 0:
46         P1_SCORE = 0
47     if P2_SCORE < 0:
48         P2_SCORE = 0
49
50     F = open("score2.txt", "r")
51     c = F.read()
```

```

52     if c == "" or c == "No Record":
53         q = open("score2.txt", "w")
54         q.write(f"{'P1_NAME}', '{P1_SCORE}', ['{P2_NAME}', '{P2_SCORE}']\n")
55         q.close()
56     else:
57         q = open("score2.txt", "a")
58         q.write(f"{'P1_NAME}', '{P1_SCORE}', ['{P2_NAME}', '{P2_SCORE}']\n")
59         q.close()
60     F.close()
61
62     if P1_SCORE == P2_SCORE:
63         print(f"Game Tied with score of each {P1_SCORE}")
64
65     else:
66         if P1_SCORE > P2_SCORE:
67             print(f"{P1_NAME} won with a score of {P1_SCORE} and {P2_NAME} got defeated with score of {P2_SCORE}")
68         else:
69             print(f"{P2_NAME} won with a score of {P2_SCORE} and {P1_NAME} got defeated with score of {P1_SCORE}")
70
71 def double_player_game():
72     print("Welcome to the Double Player Guess Game")
73     p1_name = input("Enter Player 1's name: ")
74     p2_name = input("Enter Player 2's name: ")
75
76     print(f"{p1_name}'s Game Has Started...")
77
78     p1_attempts = guess_loop()
79
80     print(f"{p2_name}'s Game Has Started")
81
82     p2_attempts = guess_loop()
83
84     score2(p1_name, p1_attempts, p2_name, p2_attempts)
85
86
87 def single_player_game():
88     print("Welcome to the Single Player Guess Game!")
89     a_a = guess_loop()
90     print(f"Your score is {score(a_a)}")
91
92
93 def score(attempts):
94     sc = 10 - attempts
95     if sc < 0:
96         sc = 0
97
98     F = open('score.txt', 'r')
99     c = F.read()
100    if c == "" or c == "No Record":
101        f = open("score.txt", 'w')
102        f.write(f'\'{datetime.datetime.now().strftime("%Y-%m-%d %H:%M:%S")}\',\'{sc}\';')
103        f.close()
104
105    else:
106        f = open("score.txt", "a")
107        f.write(f'\'{datetime.datetime.now().strftime("%Y-%m-%d %H:%M:%S")}\',\'{sc}\';')
108        f.close()
109
110    F.close()
111    return sc
112
113
114 def main():
115     print("Welcome to the Guess Game!")
116
117     while True:
118         print("\nSelect an option:")
119         print("1. Play Game")
120         print("2. Display Score Log")
121         print("3. Display High Score")
122         print("4. Reset Score")
123         print("5. Quit")
124
125         choice = input("Enter your choice (1, 2, or 3): ")
126
127         if choice == "1":
128             u = input("1. Single Player\n2. Multiplayer: ")
129             if u == '1':

```

```

130         single_player_game()
131     elif u == '2':
132         double_player_game()
133     else:
134         print("Wrong Input...")
135         continue
136
137 elif choice == "2":
138
139     u = input("1. Single Player\n2. Multiplayer: ")
140     if u == '1':
141         f = open("score.txt", "r")
142         content = f.read().split(';')[:-1]
143         if content:
144             for rec in content:
145                 rec = eval(rec)
146                 print(f"{rec[0]} ---> {rec[1]}")
147         else:
148             print("No Record")
149         f.close()
150
151     elif u == '2':
152         f = open("score2.txt", "r")
153         content = f.read().split("\n")[:-1]
154         if content:
155             for abc in range(len(content)):
156                 content[abc] = (eval(content[abc]))
157
158             for rec in content:
159                 print(f"{rec[0][0]}-->{rec[0][1]} and {rec[1][0]}-->{rec[1][1]}")
160
161         else:
162             print("No Record")
163         f.close()
164
165     else:
166         print("Wrong Input...")
167         continue
168
169 elif choice == "3":
170     u = input("1. Single Player\n2. Multiplayer: ")
171     if u == '1':
172         f = open("score.txt", "r")
173         content = f.read().split(';')[:-1]
174         if content:
175             for abcd in range(len(content)):
176                 content[abcd] = eval(content[abcd])
177                 content[abcd][0], content[abcd][1] = content[abcd][1], content[abcd][0]
178                 print(max(content)[1], "---->", max(content)[0])
179         else:
180             print("No Record")
181         f.close()
182
183     elif u == '2':
184         f = open("score2.txt", "r")
185         content = f.read().split("\n")[:-1]
186         if content:
187             for abc in range(len(content)):
188                 content[abc] = (eval(content[abc]))
189
190             individual_player_list = []
191
192             for player1, player2 in content:
193
194                 individual_player_list.append(player1[::-1])
195                 individual_player_list.append(player2[::-1])
196

```

```

197         print(max(individual_player_list)[1], "--->", max(individual_player_list)[0])
198
199     else:
200         print("No Record")
201         f.close()
202
203     else:
204         print("Wrong Input...")
205         continue
206
207
208 elif choice == "4":
209     file = None
210     U = input("1. Single Player Score 2. Multiplayer Score: ")
211
212     if U == '1':
213         file = 'score.txt'
214     elif U == '2':
215         file = 'score2.txt'
216     else:
217         print("Wrong Input")
218         continue
219
220     f = open(file, 'w')
221     f.write("No Record")
222     f.close()
223     print("Score Reset Completed")
224
225 elif choice == "5":
226     print("Thanks for playing. Goodbye!")
227     break
228 else:
229     print("Invalid choice...")
230
231
232 if __name__ == "__main__":
233     main()
234

```


Output

Menu Screen

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\Krishanu\Documents\GitHub\guess\main.py
Welcome to the Guess Game!

Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5):
```

Play Game Menu

● Single Player

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\Krishanu\Documents\GitHub\guess\main.py
Welcome to the Guess Game!

Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5): 1
1. Single Player
2. Multiplayer: 1
Welcome to the Single Player Guess Game!
Enter your guess (between 1 and 100):
```

Playing The Game

```
>>>
= RESTART: C:\Users\Krishanu\Documents\GitHub\guess\main.py
Welcome to the Guess Game!

Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5): 1
1. Single Player
2. Multiplayer: 1
Welcome to the Single Player Guess Game!
Enter your guess (between 1 and 100): 60
Just a little less, you almost got it...
Enter your guess (between 1 and 100): 50
Just a little more, you almost got it...
Enter your guess (between 1 and 100): 56
Just a little less, you almost got it...
Enter your guess (between 1 and 100): 55
Just a little less, you almost got it...
Enter your guess (between 1 and 100): 53
Just a little more, you almost got it...
Enter your guess (between 1 and 100): 54
Congratulations! You guessed the correct number in 6 attempts.
Your score is 4

Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5): |
```

● Multiplayer

Welcome to the Guess Game!

Select an option:

1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit

Enter your choice (1, 2, 3, 4, 5): 1

1. Single Player
2. Multiplayer: 2

Welcome to the Double Player Guess Game

Enter Player 1's name: Krishn Gupta

Enter Player 2's name: Ashwin Chadhary

Krishn Gupta's Game Has Started...

Enter your guess (between 1 and 100): 56

Try smaller number

Enter your guess (between 1 and 100): 34

Just a little more, you almost got it...

Enter your guess (between 1 and 100): 37

Just a little more, you almost got it...

Enter your guess (between 1 and 100): 39

Just a little more, you almost got it...

Enter your guess (between 1 and 100): 40

Just a little more, you almost got it...

Enter your guess (between 1 and 100): 42

Congratulations! You guessed the correct number in 6 attempts.

Ashwin Chadhary's Game Has Started

Enter your guess (between 1 and 100): 12

Try a very high number.

Enter your guess (between 1 and 100): 56

Just a little more, you almost got it...

Enter your guess (between 1 and 100): 63

Just a little more, you almost got it...

Enter your guess (between 1 and 100): 64

Just a little more, you almost got it...

Enter your guess (between 1 and 100): 67


```
Enter your guess (between 1 and 100): 75
Just a little less, you almost got it...
Enter your guess (between 1 and 100): 65
Just a little more, you almost got it...
Enter your guess (between 1 and 100): 66
Congratulations! You guessed the correct number in 8 attempts.
Krishn Gupta won with a score of 4 and Ashwin Chadhary got defeated with score of 2

Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5): |
```

Display Score Log

● Single Player

```
Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5) : 2
1. Single Player
2. Multiplayer: 1
2023-12-24 09:31:14 ---> 5
2023-12-24 09:31:28 ---> 5
2023-12-24 14:53:34 ---> 0
2023-12-24 14:54:07 ---> 4

Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5) : |
```

● Multiplayer

```
Select an option:
```

- 1. Play Game
- 2. Display Score Log
- 3. Display High Score
- 4. Reset Score
- 5. Quit

```
Enter your choice (1, 2, 3, 4, 5): 2
```

- 1. Single Player
- 2. Multiplayer: 2

```
Krishanu-->7 and Krishna-->5
```

```
Krishanu-->3 and Ashwin-->9
```

```
Krishn Gupta-->4 and Ashwin Chadhary-->2
```

Display High Score

● Single Player

```
Select an option:
```

- 1. Play Game
- 2. Display Score Log
- 3. Display High Score
- 4. Reset Score
- 5. Quit

```
Enter your choice (1, 2, 3, 4, 5) : 3
```

- 1. Single Player
- 2. Multiplayer: 1

```
2023-12-24 09:31:28 ----> 5
```

● Multiplayer

```
Select an option:
```

- 1. Play Game
- 2. Display Score Log
- 3. Display High Score
- 4. Reset Score
- 5. Quit

```
Enter your choice (1, 2, 3, 4, 5): 3
```

- 1. Single Player
- 2. Multiplayer: 2

```
Ashwin ---> 9
```

Reset Score

● Single Player

```
Welcome to the Guess Game!

Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5): 4
1. Single Player Score 2. Multiplayer Score: 1
Score Reset Completed

Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5): 2
1. Single Player
2. Multiplayer: 1
No Record
```

● Multiplayer

```
Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5): 4
1. Single Player Score 2. Multiplayer Score: 2
Score Reset Completed

Select an option:
1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit
Enter your choice (1, 2, 3, 4, 5): 2
1. Single Player
2. Multiplayer: 2
No Record
```

Quit

Select an option:

1. Play Game
2. Display Score Log
3. Display High Score
4. Reset Score
5. Quit

Enter your choice (1, 2, 3, 4, 5): 5

Thanks for playing. Goodbye!

Bibliography

- <https://www.python.org/doc/>
- <https://chat.openai.com/>
- <https://www.youtube.com/>