

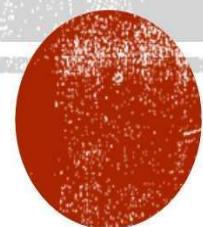
# **INTRODUCTION:**

## **DICE ROLLER**

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Type : Desktop GUI application

Institution: [VIT BHOPAL ]



- Dice Roller is a fun single-player game that I created using Python. It's basically an interactive dice rolling game where you can keep rolling the dice as many times as you want. The game doesn't just show you what number you rolled, it also keeps track of your statistics like total rolls, best roll, and encourages you with messages like "Good luck!" or "Better luck next time!"
- I got the idea for this project because I wanted to make something more than just a basic dice roller. Instead of just showing random numbers, I added a gaming element to it with score tracking and motivational messages. This makes it more engaging and fun to use. It's like having a digital dice game that remembers all your rolls and cheers you on.
- When I started building this game, these were my main goals:
  - Create an interactive dice rolling game that's actually fun to play
  - Learn how to track and store multiple data points like total rolls and best score
  - Make the game feel alive with encouraging messages



# PROJECT DICE

- Practice using variables to store game statistics
- Understand how to keep the game running infinitely until user quits
- Make something I could show to my friends and actually play with them
- Basically, I wanted to build something that was both educational for me and entertaining for users.
- Here's how I built this game step by step:
  - First, I researched about the random module in Python and how to generate random numbers. Then I planned what features I wanted - not just rolling, but also tracking statistics. After that, I started coding the basic dice roll function. Once that worked, I added variables to track total rolls and best roll. Then I added the motivational messages to make it more fun. Finally, I tested it multiple times to make sure all the statistics were updating correctly.



# HOW THE GAME WORKS:

- The trickiest part was keeping track of all the statistics while the game runs. I had to use variables properly and update them after each roll. I also spent time thinking about what messages would make the game more enjoyable. It took me around a week to complete because I kept adding small improvements.
- When you start the game, it welcomes you and explains that you can roll the dice as many times as you want. Each time you press 'r' to roll, the game generates a random number between 1 and 6.
- But here's where it gets interesting - the game keeps track of everything. It counts how many total rolls you've made. It remembers your best roll (highest number you got). After each roll, it shows you the current number, your total rolls so far, and your best roll till now.
- The game also encourages you with random messages. Sometimes it says "Good luck!" before a roll, or "Better luck next time!" if you get a low number, or celebrates when you get a high number. This makes it feel less robotic and more like a real game.



# CODE STRUCTURE AND FEATURES:

□ You can keep playing infinitely until you press 'q' to quit. When you quit, it shows you your final statistics - total rolls you made and what was your best roll throughout the session.

□ My code is organized into these main parts:

□ Import Section: I imported the random module for generating dice numbers.

□ Variables: I created variables to store total\_rolls (starts at 0) and best\_roll (starts at 0). These update after every roll.

□ Dice Roll Function: This generates a random number from 1 to 6 using random.randint(1, 6).

□ Message Function: I made a small function that randomly picks encouraging messages to display.

□ Main Game Loop: This is a while loop that keeps running until the user quits. Inside this loop:

□ Takes user input (r or q) □ If 'r', rolls the dice

□ Updates total rolls count

□ Checks if current roll is better than best roll

□ Displays the result with current statistics

□ Shows a random encouraging message



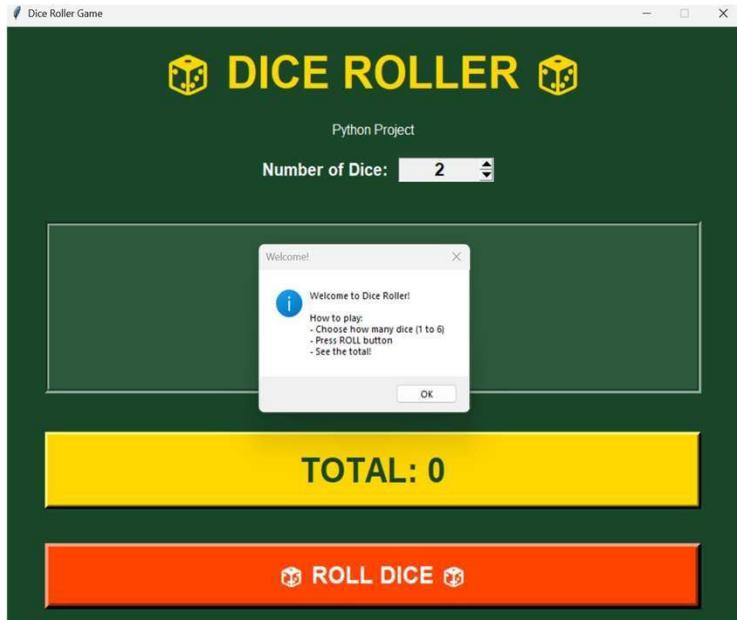
# GAME FEATURES:

- If 'q', displays final stats and exits
- Display Stats: After each roll, it clearly shows your current roll, total rolls, and best roll so you always know how you're doing.
- Here's everything my dice roller game can do:
  - Infinite Rolling: Roll the dice as many times as you want, no limit
  - Statistics Tracking: Keeps count of total number of rolls you've made
  - Best Roll Memory: Remembers and displays your highest roll
  - Motivational Messages: Shows encouraging texts like "Good luck!", "Better luck next time!", "Great roll!", etc.
  - Real-time Updates: Shows updated statistics after every single roll
  - Single Player: Easy solo game, no need for opponents
  - Final Summary: When you quit, shows your complete game statistics



# SAMPLE OUTPUT:

- Simple Controls: Just press 'r' to roll and 'q' to quit
- This is what the game looks like when you play:



- Making and playing this game has several benefits:



# **ADVANTAGES:**

- Fun to Play: The messages make it entertaining, not boring
- Tracks Progress: You can see how many times you rolled and your best score
- Learn Statistics: Helps understand concepts like tracking maximum values
- Motivational: The encouraging messages make you want to keep playing
- No Physical Dice Needed: Can play anywhere on your computer
- Good Practice: Taught me a lot about variables, loops, and conditions
- Shareable: Friends can play it too and compete for best scores
- Replayability: Infinite rolls means you can play as long as you want
- If I work on this project again, I want to add:
  - Two Player Mode: Let two people compete and see who gets the best roll



# **FUTURE ENHANCEMENTS:**

- Save Scores: Store game history in a file so you can see past records
- More Messages: Add variety of encouraging and funny messages
- Achievements: Like "Rolled 50 times!" or "Got three 6s in a row!"
- Graphical Interface: Make it with Tkinter with buttons and dice images
- Sound Effects: Add dice rolling sounds
- Difficulty Levels: Maybe add challenges like "Get a 6 in 5 rolls"
- Leaderboard: Top 10 best rolls or most rolls in a session
- These would make the game even more addictive and fun!
- While making this project, I faced some problems:



# CHALLENGES FACED:

- Tracking Statistics: Initially I struggled with updating the total\_rolls and best\_roll variables correctly. Sometimes they weren't updating or were updating at wrong times. I fixed this by carefully placing the update code after each roll.
- Message System: Deciding when to show which message was confusing. I had to use if-else conditions to show different messages based on the roll value.
- Testing: I had to play the game many times to make sure the statistics were accurate. Once I found a bug where best\_roll wasn't updating, and I had to debug it.
- User Experience: Making the output look clean and organized took some effort. I added emojis and proper spacing to make it visually appealing.
- But solving these problems taught me a lot and made me a better programmer!
- Creating this Dice Roller Game was one of the most fun projects I've done. It started as a simple idea but I kept adding features to make it more interesting. The combination of random rolling, statistics tracking, and motivational messages makes it actually enjoyable to play.



# LEARNED OUTCOMES:

- I learned so much while building this - from using the random module to tracking multiple variables to making the user interface friendly. The best part was when I showed it to my friends and they actually wanted to play it and see who could get the highest roll!
- This project proved to me that even simple ideas can be turned into engaging programs if you add the right features. It's not just about making code work, it's about making it fun and useful. I'm really proud of what I created and I definitely want to keep improving it.
- Through this project, I learned:
  - How to use Python's random module effectively
  - Variable management and updating values
  - Creating infinite loops with proper exit conditions
  - Making programs interactive and user-friendly
  - Adding personality to programs with messages



- Testing and debugging code
- Thinking about user experience
- How small features can make a big difference

