**A Report of Logic for Python Guess Game**

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**Programming with Python**

**Here is the link to the game -** [guessgamefinal\_khaing.ipynb](https://colab.research.google.com/drive/1NZRokyPoEp9Al9T5CeYeXtn3CYTOBDbo?usp=sharing)

**Introduction**

In this report, I presented the Python Guessing Game that allows the player to guess from positive random integers which I assigned between 0 and 1000. Then, the game will function by giving the player hints about whether the entry integer is small or large. The game will terminate if the player decides to exit the loop otherwise, it will keep going on infinitely.

**Libraries and Limitations**

First, we need to import Python libraries: system module and random module. Here, the random module is declared as it ensures that the integer will be random and changed after each round. Maximum number of attempts is set to 10 for a round.

**Main code structure**

The main code is defined to recall that ‘*def ()’* in the later loop then, put the main code in the *loop* of maximum attempt which is 10. The logic of the main code, *guess\_game ()*, simply consists of -

* Generating random positive integers between 0 and 10000
* Implementing conditional statements to let the player know whether his entry guess was too low or too high so that he can guess within the maximum attempts possible
* The last “else” statement to handle when the player fails to guess within the limited attempts

**Restart Loop**

The next and last step is the ‘while’ loop to restart the game if the player wants. I started with *“while True*” to loop infinitely unless the player decided to stop then I recalled the main code I had defined earlier to make an infinite loop and lastly, put the *break* if the player decided to exit the loop.

**Extra step (Surprise)**

My surprise is the “reverse guess game”. In this game, the player is given a chance to challenge the computer similar to what the computer did to the player. But the difference is the computer only has five attempts to guess with the hints the player gives which are h for too high, l for too low, and e for equal. The methodology is similar to the previous game, this time, the computer has to guess the number between 0 and 100. The computer will throw the initial guess from the range of random integers starting from 0 to 100 and the player will reply with h for high, l for low, and e for equal. The program will be ended entirely if the guess is correct.

**Conclusion**

The Guess Game is a fun and interactive game to fill boredom with interesting math tricks. Also, it is a great exercise to utilize conditional statements and infinite loop conditions to provide a well-functioning game environment and enjoyable experience for the users.