# Project Report
# Title: Dice Guessing Game using Python

# BACHELOR OF TECHNOLOGY
Computer Science and Engineering

Submitted to

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# <u>Declaration</u>

We hereby declare that I have completed my simulation based projection on Game using python under the guidance of  Mr. SHASHANK SHRIVASTAV We have Declared that We have worked with full dedication of training for the degree Of B.Tech.

# Acknowledgement

We would like to express my special thanks to the teacher who provided us the golden opportunity to learn a new Technology.

We would like to thank our parents and friends who have helped us with their valuable suggestions and guidance for choosing this course. Finally, we would like to thank our classmates who have helped us a lot.

# Introduction to Project

In this project we used the programming language. Our main aim is to build a text based Number guessing game here the text based means execution via terminal. This program is like guessing the number on a dice, here the python program generates a random number between 1-6 and as a human we need to guess/predict the random number generated by the program.

If we guess the correct number we get one point. We can play the game as many times as we wish all the correct guesses sum up and return the total number of correct guesses. Here the choice of exit is made by the user. The program accepts an integer input from every game played by the user.

**Working Solution:**

Here we are using the while loop to run infinitely until the user wants to exit. For every loop it takes an integer input from the user to guess the number. Whenever the user guess the correct number generated by the user the score will be updated to a global variable called **user_score,** and the number of trials also updated to a global variable called **tries** at the end of program execution the result will be printed in a formatted string with the total score and total number of trials.

**Working Code:**

```python
from random import randint as ri
print("*****************\nTo exit anytime press enter or give input 'e'\n*****************")
user_score = 0
tries = 0
while True:
    user_input = input("Enter a number in 1 to 6: ")
    if user_input == '' or user_input=='e':
        break
    number = int(user_input)
    random_number = ri(1,6)
    if number == random_number:
        user_score += 1
        print("You won the dice. score: ", user_score)
    else:
        print("Better luck next time!")
    tries += 1

print(f"Your total score is {user_score} for {tries} trials")
```

Here we implemented the while loop with condition as True this loop will run endlessly until it satisfies the exit condition. Here the while loop expects None or zero **0** as the exit condition when the user does not enter any or if he/she enters 0 as input the loop will exit.

We are using IF and ELSE loop to check for conditions whether the user won or lost if the user made a correct guess the score updated to user_score global var and number of trials also updated to global var tries.

At the end the program prints the result using a formatted string as Your total score is Number of correct guesses for number of tries.

**Result**:

```
*******************
To exit anytime press enter or give input 'e'
*******************
Enter a number in 1 to 6: 1
Better luck next time!
Enter a number in 1 to 6: 2
Better luck next time!
Enter a number in 1 to 6: 3
You won the dice. score:  1
Enter a number in 1 to 6: 4
Better luck next time!
Enter a number in 1 to 6: 2
You won the dice. score:  2
Enter a number in 1 to 6: 3
Better luck next time!
Enter a number in 1 to 6: 1
Better luck next time!
Enter a number in 1 to 6: 3
Better luck next time!
Enter a number in 1 to 6: 5
Better luck next time!
Enter a number in 1 to 6: 6
Better luck next time!
Enter a number in 1 to 6: 4
Better luck next time!
Enter a number in 1 to 6: 3
Better luck next time!
Enter a number in 1 to 6: 2
You won the dice. score:  3
Enter a number in 1 to 6: e
Your total score is 3 for 13 trials
```

Here the output of the program. If the user presses the **enter key** without any input the program exits because it satisfies the exit condition as it is getting no input or if he enters the input as '**e**' it also qualifies the exit condition.

# Conclusion and Future Scope

By this python program we have learnt how the python while loop works in depth and the random module. These are very interesting to code and play, we got to know that there is a lot to explore in python.

For the future scope we want to implement the program with python functions. The python function will make the code cleaner and easy to read, and we want to use try and catch blocks to catch errors without terminating the program in the middle.