1. Write a program that asks the user to enter a letter. Then it generates a random number between 1 and 10 and prints out the letter that many times.

In [2]:
```
import random

letter = input("Enter a letter: ")
random_number = random.randint(1, 10)

output = letter * random_number
print(output)
```

```
Enter a letter: A
AAAAA
```

2 . In the game Yahtzee, players roll five dice. A Yahtzee is when all five dice are the same. Write a program that simulates rolling five 10,000 times and counts how many Yahtzees occur. Print out what percentage of the rolls come out to be Yahtzees.

In [8]:
```
import random

def roll_dice():
    return [random.randint(1, 6) for _ in range(5)]

def is_yahtzee(dice):
    return all(die == dice[0] for die in dice)

def simulate_yahtzee(num_rolls):
    yahtzee_count = 0

    for _ in range(num_rolls):
        dice = roll_dice()
        if is_yahtzee(dice):
            yahtzee_count += 1

    percentage = (yahtzee_count / num_rolls) * 100
    return percentage

num_rolls = 10000
yahtzee_percentage = simulate_yahtzee(num_rolls)
print(f"Percentage of Yahtzees in {num_rolls} rolls: {yahtzee_percentage:.2f}%")
```

```
Percentage of Yahtzees in 10000 rolls: 0.10%
```

Write a program that asks the user to enter a sentence, removes all the spaces from the sentence, converts the remainder to uppercase, and prints out the result.

In [3]:
```
sentence = input("Enter a sentence: ")

# Remove spaces from the sentence
sentence = sentence.replace(" ", "")

# Convert to uppercase
sentence = sentence.upper()

# Print the result
print("Result:", sentence)
```

```
Enter a sentence: Hi what are you doing
Result: HIWHATAREYOUDOING
```

Write a program that asks the user to enter a string. If the string is at least five characters long, then create a new string that consists of the first five characters of the string along with three asterisks at the end. Otherwise add enough exclamation points (!) to the end of the string in order to get the length up to five.

In [6]:
```
user_input = input("Enter a string: ")

if len(user_input) >= 5:
    new_string = user_input[:5] + "***"
else:
    new_string = user_input + "!" * (5 - len(user_input))

print("New string:", new_string)
```

```
Enter a string: Hi
New string: Hi!!!
```

Write a program that ask the user to enter a string that consists of multiple words. Then print out the first letter of each word, all on the same line.

In [7]:
```
user_input = input("Enter a string of multiple words: ")

# Split the input string into individual words
words = user_input.split()

# Iterate over the words and print the first letter of each word
for word in words:
    print(word[0], end='')

# Print a new line after printing all the first letters
print()
```

```
Enter a string of multiple words: Hello World
HW
```

In [ ]:
```

```