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 [7]:
```
import random
letter=input("enter a letter: ")
random_number=random.randint(1,10)
print("The random number is ", random_number)
output=letter*random_number
print(output)
```

```
enter a letter: hello
The random number is  3
hellohellohello
```

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 [11]:
```
def roll_dice():
    return [random.randint(1, 6) for _ in range(5)]

def simulate_yahtzee(num_simulations):
    yahtzee_count = 0

    for _ in range(num_simulations):
        dice = roll_dice()
        if len(set(dice)) == 1:
            yahtzee_count += 1

    percentage = (yahtzee_count / num_simulations) * 100
    return percentage

num_simulations = 10000
percentage = simulate_yahtzee(num_simulations)

print(f"Percentage of rolls resulting in a Yahtzee: {percentage:.2f}%")
```

```
Percentage of rolls resulting in a Yahtzee: 0.13%
```

3. 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 [12]:
```
sentence=input("enter a sentence: ")
sentence_without_spaces = sentence.replace(" ","")
result = sentence_without_spaces.upper()
print(result)
```

```
enter a sentence: p ava ann
PAVAANN
```

4. 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 [13]:
```
user_input = input("Enter a string: ")

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

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

```
Enter a string: nkjdsbkuhv
Modified string: nkjds***
```

5. 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 [15]:
```
user_input = input("Enter a string with multiple words: ")

# Split the input string into a list of words
words = user_input.split()

# Extract the first letter of each word
first_letters = [word[0] for word in words]

# Print the first letters on the same line
print("".join(first_letters))
```

```
Enter a string with multiple words: teh amount hdhuiah fgiah hfkh
tahfh
```