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: r
rrrr
```

1. 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 [4]: import random

num_roll = 10000
yahtzee_count = 0

for _ in range(num_roll):
    dice = [random.randint(1, 6) for _ in range(5)]
    if dice.count(dice[0]) == 5:
        yahtzee_count += 1

percentage = (yahtzee_count / num_roll) * 100
print(f"Percentage of Yahtzees: {percentage:.2f}%")
```

```
Percentage of Yahtzees: 0.07%
```

1. 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 [6]: sentence = input("Enter a sentence: ")

sentence_without_spaces = sentence.replace(" ", "")

result = sentence_without_spaces.upper()

print(result)
```

```
Enter a sentence: How are you
HOWAREYOU
```

1. 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 [10]: string = input("Enter a string: ")

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

print(new_string)
```

```
Enter a string: hi
hi!!!
```

1. 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]: string = input("Enter a string: ")

words = string.split()

first_letters = [word[0] for word in words]

for letter in first_letters:
    print(letter, end='')

print()
```

```
Enter a string: how are you
hay
```