In [1]:
```
# 1. What is the input() function in Python used for?
a = int(input('Enter the number:'))
a

# The `input()` function is used to read input from the user as a string.
```

Out[1]: 5

In [2]:
```
### 2. **Question:** How can you accept an integer as input from the user using

num = int(input("Enter an integer: "))
```

In [3]:
```
### 3. **Question:** How do you accept a float input from the user?


num = float(input("Enter a float: "))
```

In [16]:
```
### 4. **Question:** How can you take multiple space-separated values as input?

values = (input("Enter values:").split())
```

In [5]:
```
### 5. **Question:** How do you check if a number entered by the user is positiv

num = int(input("Enter a number: "))
if num > 0:
    print("Positive")
elif num < 0:
    print("Negative")
else:
    print("Zero")
```

```
Positive
```

In [15]:
```
### 6. **Question:** How do you convert user input to a list of integers?

nums = [int(x) for x in input("Enter numbers:").split()]
nums
```

Out[15]: [1, 2, 3, 4, 5]

In [7]:
```
### 7. **Question:** How do you accept a string input and print it in uppercase?

user_input = input("Enter a string:")
print(user_input.upper())
```

```
KOMAL
```

In [8]:
```
### 8. **Question:** Write a Python program that accepts a string and prints the
text = input("Enter a string:")
vowels = "aeiou"
count=sum(1 for char in text if char.lower() in vowels)
print("Number of vowels:",count)
```

```
Number of vowels: 5
```

In [9]:
```
### 9. **Question:** Write a program that takes a number as input and checks if
num = int(input("Enter a number:"))
if num % 2 == 0:
    print("Even")
else:
    print("Odd")
```

```
Even
```

In [10]:
```
### 10. **Question:** How would you check if a string is a palindrome using `inp
text = input("Enter a string:")
if text == text[::-1]:
    print("Pallindrome")
else:
    print("Not a pallindrome")
```

```
Not a pallindrome
```

In [11]:
```
### 11. **Question:** Write a program that takes a number as input and prints it
num = int(input("Enter a number:"))
print("Square:",num**2)
```

```
Square: 36
```

In [12]:
```
### 12. **Question:** Write a program that asks for a number and prints whether
num = int(input("Enter  number:"))
if num%3 == 0:
    print("Divisible by 3")
else:
    print("Not divisible by 3")
```

```
Divisible by 3
```

In [17]:
```
### 13. **Question:** How would you check if a number is divisible by both 3 and

num = int(input("Enter  number:"))
if num % 3 == 0 and num % 7== 0 :
    print("Divisible by 3 and 7")
else:
    print("Divisible not by 3 and 7")
```

```
Divisible not by 3 and 7
```

In [18]:
```
### 14. **Question:** How do you accept a list of comma-separated values as inpu
values = input("Enter comma-separated values: ").split(',')
values
```

Out[18]:
```
['12 34 56']
```

In [15]:
```
### 15. **Question:** Write a Python program that takes two numbers as input and
num1 = int(input("Enter the 1st number:"))
num2 = int(input("Enter the 2nd number:"))
product = (num1*num2)
product
```

Out[15]:
```
30
```

In [16]:
```
### 16. **Question:** Write a program that checks if the input number is a prime

num = int(input("Enter a number: "))
```

```
if num > 1:
    for i in range(2, num):
        if num % i == 0:
            print("Not a prime number")
            break
    else:
        print("Prime number")
else:
    print("Not a prime number")
```

```
Prime number
```

In [8]:
```
### 17. **Question:** How can you accept a boolean value (True/False) from the u

user_input = input("Enter True or False: ")

if user_input.lower() == "true":
    value = True
elif user_input.lower() == "false":
    value = False
else:
    print("Invalid input. Please enter True or False.")
    value = None  # or handle the error
```

In [18]:
```
### 18. **Question:** Write a program that accepts a string and prints the rever

name = input("Enter your name:")
print("Reverse of your name is : ",name[::-1])
```

```
Reverse of your name is :  ihcarP
```

In [19]:
```
### 19. **Question:** Write a program that asks for a user's name and age and pr

name = input("Enter your name: ")
age = int(input("Enter your age: "))
print(f"Hello, {name}. You are {age} years old.")
print("Hello, {}. You are {} years old.".format(name,age))
```

```
Hello, Prachi. You are 21 years old.
Hello, Prachi. You are 21 years old.
```

In [20]:
```
### 20. **Question:** Write a program to calculate the factorial of a number usi

num = int(input("Enter a number:"))
factorial = 1
for i in range(1,num+1):
    factorial *= i
print("Factorial:",factorial)
```

```
Factorial: 720
```

In [21]:
```
### 21. **Question:** How do you prevent a user from entering an empty string?

user_input = input("Enter something: ").strip()
if not user_input:
    print("input cannot be empty.")
else:
    print(f"You entered :{user_input}")
```

```
You entered :prachi
```

In [22]:
```
### 22. **Question:** Write a program to check if an entered number is a perfect

import math
num = int(input("Enter a number:"))
if math.isqrt(num) ** 2 == num:
    print("Perfect square")
else:
    print("Not a perfect square")
```

```
Not a perfect square
```

In [23]:
```
### 23. **Question:** Write a program that asks the user for a year and determin

year = int(input("Enter a year: "))
if(year%4 == 0 and year % 100 != 0) or (year % 400 == 0):
    print("Leap Year")
else:
    print("Not a leap year")
```

```
Leap Year
```

In [24]:
```
### 24. **Question:** How can you remove leading and trailing spaces from a stri

user_input = input("Enter something: ").strip()
```

In [25]:
```
### 25. **Question:** How do you handle incorrect inputs when you expect an inte
try:
    num = int(input("Enter a number:"))
except ValueError:
    print("Invalid input!Please enter a valid integer.")
```

```
Invalid input!Please enter a valid integer.
```

In [26]:
```
### 26. **Question:** Write a program that accepts a string and counts the occur

text = input("Enter a string: ")
char = input("Enter a character to count: ")
print(f"Occurrence of {char}:{text.count(char)}")
```

```
Occurrence of a:1
```

In [27]:
```
### 27. **Question:** How would you convert user input to lowercase using `input

user_input = input("Enter a string: ").lower()
user_input
```

Out[27]:
```
'kernel'
```

In [28]:
```
### 28. **Question:** Write a program that accepts a number and prints whether i

num = int(input("Enter a number: "))
if num % 10 == 0:
    print("Multiple of 10")
else:
    print("Not a multiple of 10")
```

```
Multiple of 10
```

In [29]:
```
### 29. **Question:** How would you check if a string contains only alphabets us
```

```
user_input = input("Enter a string: " )
if user_input.isalpha():
    print("Only alphabets")
else:
    print("Contains non-alphabet characters")
```

```
Contains non-alphabet characters
```

In [30]:
```
### 30. **Question:** Write a program to count the number of words in a sentence

text = input("Enter a sentence:")
print("Number of words:", len(text.split()))
```

```
Number of words: 1
```

In [33]:
```
### 31. **Question:** How would you accept a date input from the user in Python?

from datetime import datetime
date_str = input("Enter a date (YYYY-MM-DD):")
date = datetime.strptime(date_str, "%Y-%m-%d")
print("Entered date:", date)
```

```
Entered date: 2005-01-14 00:00:00
```

In [34]:
```
### 32. **Question:** Write a program that checks if the entered number is divis

num = int(input("Enter a number: "))
if num % 3 == 0 and num % 5 == 0:
    print("Divisible by both 3 nad 5 ")
else:
    print("Not divisible by both 3 and 5")
```

```
Divisible by both 3 nad 5
```

In [35]:
```
### 33. **Question:** Write a program to swap the values of two variables using

a = input("Enter first value: ")
b = input("Enter second value: ")
a,b = b,a
print(f"Swapped values: a={a}, b={b}")
```

```
Swapped values: a=36, b=63
```

In [36]:
```
### 34. **Question:** Write a program to take user input and print it without sp

user_input = input("Enter a string: ")
print(user_input.replace(" ",""))
```

```
MynameisK.
```

In [37]:
```
### 35. **Question:** How do you validate if an entered input is a valid email a
import re
email = email = input("Enter email: ")
if re.match(r"[^@]+@[^@]+\.[^@]+",email):
    print("Valid email")
else:
    print("Invalid email")
```

```
Valid email
```

In [40]:
```
### 36. **Question:** Write a program that accepts a number and prints its cube.
```

```
num = int(input("Enter a number: "))
print("Cube:", num**3)
```

```
Cube: 216
```

In [42]:
```
### 37. **Question:** How would you accept and store multiple names from the use

names = input("Enter names separated by commas: ").split(',')
print("Names:",names)
```

```
Names: ['himani kajal']
```

In [43]:
```
### 38. **Question:** How would you extract numbers from a string entered by the

import re                                  # re : regular expression  , r: raw st
text = input("Enter a string:")
numbers = re .findall(r'\d+',text)
print("Extracted numbers: ", numbers)
```

```
Extracted numbers:  ['1234']
```

In [44]:
```
### 39. **Question:** How do you find the maximum number from a list of integers

numbers = list(map(int, input("Enter numbers separated by spaces: ").split()))
print("Maximum number:" , max(numbers))
```

```
Maximum number: 52
```

In [47]:
```
### 40. **Question:** How would you prompt the user for input until they enter a

while True:
    try:
        num = int(input("Enter a valid number:"))
        break
    except ValueError:
        print("Invalid input, please enter a number.")
```

```
Invalid input, please enter a number.
```

In [48]:
```
### 41. **Question:** Write a program to check if the entered string has digits.

user_input = input("Enter a string:")
if any(char.isdigit() for char in user_input):
    print("Contains digits")
else:
    print("No digits")
```

```
Contains digits
```

In [52]:
```
### 42. **Question:** Write a program to check if the entered string has only  w

user_input = input("Enter a string:")
if user_input.isspace():
    print("Only whitespace")
else:
    print("Contains non-whitespace charcters")
```

```
Only whitespace
```

In [60]:
```
### 43. **Question:** Write a program to find the sum of all digits in a string

user_input = input("Enter a string: ")
sum  = 0
```

```
for char in user_input:
    if char.isdigit():
        sum += int(char)
print("Sum of all digits:", sum)
```

```
Sum of all digits: 21
```

In [64]:
```
### 44. **Question:** Write a program that accepts a number and prints its absol
num = int(input("Enter a number: "))
print("Absolute value: ", abs(num))
```

```
Absolute value:  56
```

In [69]:
```
### 45. **Question:** How would you check if a string entered by the user contai

user_input = input("Enter a string: ")
contains_upper = False
for char in user_input:
    if char.isupper():
        contains_upper = True
        break

if contains_upper:
    print("Contains Uppercase letters")
else:
    print("No Uppercase letters")
```

```
Contains Uppercase letters
```

In [71]:
```
user_input = input("Enter a string: ")
if any(char.isupper() for char in user_input):
     print("Contains uppercase letters")
else:
    print("No uppercase letters")
```

```
Contains uppercase letters
```

In [72]:
```
### 46. **Question:** Write a program that converts Celsius to Fahrenheit.

celsius = float(input("Enter temperature in Celsius"))
fahrenheit = (celsius * 9/5) + 32
print(f"Temperature in Fahrenheit: {fahrenheit}")
```

```
Temperature in Fahrenheit: 86.0
```

In [1]:
```
### 47. **Question:** Write a program to find the average of a list of numbers e
numbers = list(map(int, input("Enter numbers separated by space: ").split()))
print("Average:",sum(numbers) / len(numbers))
```

```
Average: 20.0
```

In [3]:
```
### 48. **Question:** Write a program to count the number of consonants in a str

user_input = input("Enter a string: ")
consonant_count = 0

for char in user_input:
    if char.isalpha() and char.lower() not in 'aeiou':
        consonant_count += 1

print("Number of consonants:", consonant_count)
```

```
Number of consonants: 6
```

In [4]:
```
text = input("Enter a string: ")
consonants = "bcdfghjklmnpqrstvwxyz"
count = sum(1 for char in text.lower() if char in consonants)
print("Number of consonants:", count)
```

```
Number of consonants: 6
```

In [10]:
```
### 49. **Question:** How do you check if a string entered by the user contains

import string
text = input("Enter a string: ")
if any(char in string.punctuation for char in text):
    print("Contains punctuation")
else:
    print("No punctuation")
```

```
Contains punctuation
```

In [12]:
```
### 50. **Question:** Write a program that accepts a sentence and prints the lon

text = input("Enter a sentence:")
words = text.split()
longest_word = max(words,key=len)
print("Longest word: ",longest_word)
```

```
Longest word:  Intelligence
```

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]: