1. What is the input() function in Python used for?

In [7]:
```
# answer
# input() fuction is used to read the input from the user as a string
# example
a=input()
print(a)
```

```
anjali
```

2. How can you accept an integer as input from the user using input()?

In [133…
```
# answer
a=int(input('enter a number:'))
print('integer:',a)
```

```
integer: 12
```

3. How do you accept a float input from the user?

In [135…
```
# answer
a=float(input('enter the float number:'))
print('float:',a)
```

```
float: 3.0
```

4. How can you take multiple space-separated values as input?

In [21]:
```
# answer : by using the split() fuction we can split the string into list of val
a=input('enter the values:').split()
print(a)
```

```
['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i']
```

5. How do you check if a number entered by the user is positive, negative, or zero?

In [30]:
```
# answer
a=int(input('enter a number:'))
if a>0:
    print('positive')
elif a<0:
```

```
    print('negative')
else:
    print('zero')
```

```
negative
```

6. How do you convert user input to a list of integers?

In [75]:
```
# answer
nums = [int(x) for x in input("Enter numbers: ").split()]
nums
```

Out[75]:
```
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```

7. How do you accept a string input and print it in uppercase?

In [137…
```
# answer
name=input('enter a name:')
print('uppercase:',name.upper())
```

```
uppercase: ANJALI
```

8. Write a Python program that accepts a string and prints the number of vowels in it.

In [71]:
```
# answer
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: 3
```

In [61]:
```
text=input('enter the string:')
vowels='aeiouAEIOU'
count=0
for i in text:
    if i in vowels:
        count=count+1
print('number of vowels in text:',count)
```

```
number of vowels in text: 3
```

9. Write a program that takes a number as input and checks if it is even or odd.

In [69]:
```
# answer
a=int(input('enter a numbet:'))
if a%2==0:
    print('even number:')
else:
    print('odd number')
```

```
odd number
```

10. How would you check if a string is a palindrome using input()?

In [83]:
```
# answer
poly=input('enter a string:')
if poly==poly[::-1]:
    print('palindrome')
else:
    print('not polindrome')
```

```
palindrome
```

11. Write a program that takes a number as input and prints its square.

In [139…
```
# answer
num=int(input('enter a number:'))
print('square:',num**2)
```

```
square: 100
```

12. Write a program that asks for a number and prints whether it is divisible by 3.

In [100…
```
# answer
num=int(input('enter a number:'))
if num%3==0:
    print('divisible by 3')
else:
    print('not divisible by 3')
```

```
divisible by 3
```

In [98]:
```
num=int(input('enter a number:'))
if num%3==0:
    print('divisible by 3')
else:
    print('not divisible by 3')
```

```
not divisible by 3
```

13. How would you check if a number is divisible by both 3 and 7?

In [113…
```
# answer
num=int(input('enter a number:'))
if num%3==0 and num%7==0:
    print('divisible by both 3 and 7')
else:
    print('not divisible by both 3 and 7')
```

```
divisible by both 3 and 7
```

In [111…
```
num=int(input('enter a number:'))
if num%3==0 and num%7==0:
    print('divisible by both 3 and 7')
else:
    print('not divisible by both 3 and 7')
```

```
not divisible by both 3 and 7
```

14. How do you accept a list of comma-separated values as input?

In [129…
```
# answer
comma_sep=input('enter the values:').split()
print(comma_sep)
```

```
['1', 'g', '6', '4', 'f', '3', 'i', '8', 's', '7', 'j']
```

15. Write a Python program that takes two numbers as input and prints their product.

In [131…
```
# answer
a=int(input('enter the 1st number:'))
b=int(input('enter the 2nd number:'))
print('product of 2 numbers:',a*b)
```

```
product of 2 numbers: 50
```

16. Write a program that checks if the input number is a prime number.

In [152…
```
# answer
num=int(input('enter a number:'))
if num>1:
    for i in range(2,num):
        if num%i==0:
            print('not prime')
```

```
            break
    else:
        print('prime')
else:
    print('not prime')
```

```
prime
```

In [148…

```
num=int(input('enter a number:'))
if num>1:
    for i in range(2,num):
        if num%i==0:
            print('not prime')
            break
    else:
        print('prime')
else:
    print('not prime')
```

```
not prime
```

17. How can you accept a boolean value (True/False) from the user?

In [163…

```
# answer
value=input('enter True or False:')
print(value.lower()=='true')
```

```
True
```

In [187…

```
value=input('enter True or False:')
if value.lower()=='true':
    b=True
else:
    b=False
print('enter:',b)
```

```
enter: True
```

18. Write a program that accepts a string and prints the reverse of that string.

In [190…

```
# answer
reverse_str=input('enter the string:')
print(reverse_str[::-1])
```

```
ilajna
```

In [196…

```
reverse_num=int(input('enter the number:'))
rev=0
while reverse_num>0:
    remainder=reverse_num%10
    rev=rev*10+remainder
    reverse_num=reverse_num//10
print(rev)
```

```
654321
```

19. Write a program that asks for a user's name and age and prints a message.

In [201…
```
# answer
name=input('enter your name:')
age=int(input('enter your age:'))
print('My name is',name,'I am',age,'years old')
```

```
My name is anjali I am 21 years old
```

In [209…
```
name=input('enter your name:')
age=int(input('enter your age:'))
print(f'My name is {name} I am {age} years old')
```

```
My name is anjali I am 21 years old
```

In [215…
```
name=input('enter your name:')
age=int(input('enter your age:'))
print('My name is {} I am {} years old'.format(name,age))
```

```
My name is anjali I am 21 years old
```

20. Write a program to calculate the factorial of a number using input().

In [226…
```
# answer
fact_num=int(input('enter the number:'))
factorial=1
for i in range(1,fact_num+1):
    factorial=factorial*i
print('Factorial:',factorial)
```

```
Factorial: 120
```

In [228…
```
num=int(input('enter a number:'))
factorial=1
if num<0:
    print('factorial does not work with negative numberas')
elif num==0:
    print('factorial of 0 is 1')
else:
    for i in range(1,num+1):
        factorial=factorial*i
    print('factorial of',num,'is',factorial)
```

```
factorial of 5 is 120
```

In [230…
```
num=int(input('enter a number:'))
factorial=1
if num<0:
    print('factorial does not work with negative numberas')
elif num==0:
    print('factorial of 0 is 1')
else:
    for i in range(1,num+1):
```

```
        factorial=factorial*i
    print('factorial of',num,'is',factorial)
```

```
factorial of 0 is 1
```

In [232…

```
num=int(input('enter a number:'))
factorial=1
if num<0:
    print('factorial does not work with negative numberas')
elif num==0:
    print('factorial of 0 is 1')
else:
    for i in range(1,num+1):
        factorial=factorial*i
    print('factorial of',num,'is',factorial)
```

```
factorial does not work with negative numberas
```

21. How do you prevent a user from entering an empty string?

In [239…

```
# answer
text=input('enter something:').strip()
if not text:
    print('input cannot be empty')
else:
    print('you entered:',text)
```

```
input cannot be empty
```

In [241…

```
text=input('enter something:').strip()
if not text:
    print('input cannot be empty')
else:
    print('you entered:',text)
```

```
you entered: anjali
```

In [245…

```
text=input('enter something:')
while text=='':
    print('input cannot be empty')
    text=input('enter something:')
print('you entered:',text)
```

```
input cannot be empty
you entered: anjali
```

22. Write a program to check if the entered number is a perfect square.

In [254…

```
# answer
import math
num=int(input('enter the number:'))
if math.sqrt(num)**2==num:
    print('perfect square')
```

```
else:
    print('not perfect square')
```

```
perfect square
```

In [260…
```
num=int(input('enter the number:'))
sqrt=int(num**0.5)
if sqrt*sqrt==num:
    print('perfect square')
else:
    print('not perfect square')
```

```
perfect square
```

23. Write a program that asks for a year and determines if it's a leap year.

In [16]:
```
# answer
year=int(input('enter the 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 [18]:
```
year=int(input('enter the year:'))
if (year%4==0 and year%100!=0) or year%400==0:
    print('leap year')
else:
    print('not aleap year')
```

```
not aleap year
```

24. How can you remove leading and trailing spaces from a string input?

In [24]:
```
# answer
text=input('enter the text:').strip()
print(text)
```

```
anjali panduga
```

25. How do you handle incorrect inputs when you expect an integer using input()?

In [97]:
```
# answer
try:
    num=int(input('enter the number:'))
    print('you entered:',num)
except ValueError:
    print('invalid input! please enter the valid integer')
```

```
you entered: 30
```

In [99]:
```
try:
    num=int(input('enter the number:'))
    print('you entered:',num)
except ValueError:
    print('invalid input! please enter the valid integer')
```

```
invalid input! please enter the valid integer
```

26. Write a program that accepts a string and counts the occurrence of a particular character.

In [16]:
```
# answer
text=input('enter a string:')
char=input('enter the character to count:')
print('occurance of character:',text.count(char))
```

```
occurance of character: 2
```

In [18]:
```
text=input('enter a string:')
char=input('enter the character to count:')
print('occurance of character:',text.count(char))
```

```
occurance of character: 1
```

27. How would you convert user input to lowercase using input()?

In [20]:
```
# answer
text=input('enter the string:')
print(text.lower())
```

```
anjali
```

28. Write a program that accepts a number and prints whether it is a multiple of 10.

In [33]:
```
# answer
num=int(input('enter the number:'))
if num%10==0:
    print('multiple of 10')
else:
    print('not multiple of 10')
```

```
multiple of 10
```

In [35]:
```
num=int(input('enter the number:'))
if num%10==0:
    print('multiple of 10')
```

```
else:
    print('not multiple of 10')
```

```
not multiple of 10
```

29. How would you check if a string entered by the user contains only alphabets using input()?

In [38]:
```
# answer
text=input('enter the string:')
if text.isalpha():
    print('contains alphabets')
else:
    print('not contain alphabets')
```

```
contains alphabets
```

In [40]:
```
text=input('enter the string:')
if text.isalpha():
    print('contains alphabets')
else:
    print('not contain alphabets')
```

```
not contain alphabets
```

30. Write a program to count the number of words in a sentence entered by the user.

In [51]:
```
text=input('enter the sentence:')
print(len(text))
```

```
32
```

In [53]:
```
# answer
text=input('enter the sentence:')
print(len(text.split()))
```

```
5
```

31. How would you accept a date input from the user in Python?

In [75]:
```
# answer
from datetime import datetime
date_input=input('enter the date in the formate of (yyyy-mm-dd):')
date=datetime.strptime(date_input,'%Y-%m-%d')
print('you enter the date:',date)
```

```
you enter the date: 2003-12-09 00:00:00
```

In [77]:
```
from datetime import date
year=int(input('enter the year:'))
month=int(input('enter the month:'))
day=int(input('enter the day:'))
date=date(year,month,day)
print('you enter the date:',date)
```

```
you enter the date: 2003-12-09
```

32. Write a program that checks if the entered number is divisible by both 3 and 5.

In [80]:
```
# answer
number=int(input('enter the number:'))
if number%3==0 and number%5==0:
    print('divisible by both 3 and 5')
else:
    print('not divisible by both 3 and 5')
```

```
divisible by both 3 and 5
```

In [82]:
```
number=int(input('enter the number:'))
if number%3==0 and number%5==0:
    print('divisible by both 3 and 5')
else:
    print('not divisible by both 3 and 5')
```

```
not divisible by both 3 and 5
```

33. Write a program to swap the values of two variables using input().

In [85]:
```
# answer
a=int(input('enter the a value:'))
b=int(input('enter the b value:'))
a,b=b,a
print(a)
print(b)
```

```
13
12
```

In [87]:
```
# using the 3rd variable
a=int(input('enter the number1:'))
b=int(input('enter the number2:'))
temp=a
a=b
b=temp
print(a)
print(b)
```

```
13
12
```

34. Write a program to take user input and print it without spaces between words.

In [90]:
```
# answer
text=input('enter the string:')
print(text.replace(' ',''))
```

```
pythonisaprogramminglanguage
```

35. How do you validate if an entered input is a valid email address?

In [102…
```
# answer
email=input('enter your email:')
if '@' in email and '.' in email and email.endswith('com'):
    print('valid email')
else:
    print('invalid email')
```

```
valid email
```

In [104…
```
email=input('enter your email:')
if '@' in email and '.' in email and email.endswith('com'):
    print('valid email')
else:
    print('invalid email')
```

```
invalid email
```

In [106…
```
email=input('enter your email:')
if '@' in email and '.' in email and email.endswith('com'):
    print('valid email')
else:
    print('invalid email')
```

```
invalid email
```

36. Write a program that accepts a number and prints its cube.

In [114…
```
# answer
num=int(input('enter the number:'))
print('cube of a number:',num**3)
```

```
cube of a number: 8
```

37. How would you accept and store multiple names from the user?

In [9]:
```
# answer
text=input('enter the names:').split(',')
print(text)
```

```
['anjali', 'arun', 'kiran', 'chinni', 'bunny']
```

38. How would you extract numbers from a string entered by the user?

In [12]:
```
# answer
import re
text=input('enter the string:')
numbers=re.findall(r'\d+',text)
print('extract numbers:',numbers)
```

```
extract numbers: ['10', '20', '12']
```

In [14]:
```
text = input("Enter a string: ")
number = ""
numbers = []
for ch in text:
    if ch.isdigit():
        number += ch
    else:
        if number != "":
            numbers.append(number)
            number = ""
if number != "":
    numbers.append(number)
print("Numbers are:", numbers)
```

```
Numbers are: ['10', '20', '12']
```

39. How do you find the maximum number from a list of integers entered by the user?

In [27]:
```
# answer
numbers=input('enter the numbers:')
num_list=[int(num) for num in numbers.split()]
max_num=max(num_list)
print('maximum number:',max_num)
```

```
maximum number: 95
```

40. How would you prompt the user for input until they enter a valid number?

In [1]:
```
# answer
while True:
    try:
        num=int(input('enter the number:'))
```

```
        print('you entered:',num)
        break
    except ValueError:
        print('invalid input! please enter the valid integer')
```

```
you entered: 20
```

In [3]:
```
while True:
    user_input = input("Enter a number: ")
    if user_input.isdigit():
        number = int(user_input)
        print("You entered:", number)
        break
    else:
        print("Invalid input! Please enter a valid number.")
```

```
Invalid input! Please enter a valid number.
You entered: 20
```

41. Write a program to check if the entered string has digits.

In [7]:
```
# answer
text=input('enter the string:')
if any(char.isdigit() for char in text):
    print('contains digit')
else:
    print('not conmtain digit')
```

```
contains digit
```

In [9]:
```
text=input('enter the string:')
if any(char.isdigit() for char in text):
    print('contains digit')
else:
    print('not conmtain digit')
```

```
not conmtain digit
```

42. Write a program to check if the entered string has only whitespace characters.

In [20]:
```
# answer
text=input('enter a string:')
if text.isspace():
    print('string has only whitespace characters')
else:
    print('string has non-whitespace characters')
```

```
string has only whitespace characters
```

In [22]:
```
text=input('enter a string:')
if text.isspace():
    print('string has only whitespace characters')
```

```
else:
    print('string has non-whitespace characters')
```

```
string has non-whitespace characters
```

43. Write a program to find the sum of all digits in a string entered by the user.

In [25]:
```
# answer
text=input('enter the string with numbers:')
total=0
for i in text:
    if i.isdigit():
        total=total+int(i)
print('sum of all digits in a string:',total)
```

```
sum of all digits in a string: 15
```

In [27]:
```
text=input('enter the string with numbers:')
digit_sum=sum(int(digit) for digit in text if digit.isdigit())
print('sum of all digits in a string:',digit_sum)
```

```
sum of all digits in a string: 15
```

44. Write a program that accepts a number and prints its absolute value.

In [40]:
```
# answer
number=float(input('enter the value:'))
print('absolute value:',abs(number))
```

```
absolute value: 13.0
```

In [42]:
```
number=float(input('enter the value:'))
print('absolute value:',abs(number))
```

```
absolute value: 12.0
```

45. How would you check if a string entered by the user contains any uppercase letters?

In [47]:
```
# answer
text=input('enter a string:')
if any(char.isupper() for char in text):
    print('contains uppercase letters')
else:
    print('not contains uppercase letters')
```

```
not contains uppercase letters
```

In [49]:
```
text=input('enter a string:')
if any(char.isupper() for char in text):
    print('contains uppercase letters')
```

```
else:
    print('not contains uppercase letters')
```

```
contains uppercase letters
```

46. Write a program that converts Celsius to Fahrenheit.

In [52]:
```
# answer
celsius=float(input('enter the temperature in celsius'))
fahrenheit=(celsius*9/5)+32
print('temperature in fahrenheit:',fahrenheit)
```

```
temperature in fahrenheit: 110.57
```

47. Write a program to find the average of a list of numbers entered by the user.

In [55]:
```
# answer
num=input('enter the numbers:')
avg_nums=[int(i) for i in num.split()]
print('average of numbers:',sum(avg_nums)/len(avg_nums))
```

```
average of numbers: 3.0
```

In [57]:
```
num=input('enter the numbers:')
avg_nums=[int(i) for i in num.split()]
print('average of numbers:',sum(avg_nums)/len(avg_nums))
```

```
average of numbers: 25.0
```

48. Write a program to count the number of consonants in a string entered by the user.

In [60]:
```
# answer
text=input('enter the string:')
vowels='bcdfghjklmnpqrstvwxyzBCDFGHJKLMNPQRSTVWXYZ'
count=0
for i in text:
    if i in vowels:
        count=count+1
print('number of consonants in text:',count)
```

```
number of consonants in text: 3
```

In [62]:
```
text=input('enter the string:')
vowels='bcdfghjklmnpqrstvwxyzBCDFGHJKLMNPQRSTVWXYZ'
count=0
for i in text:
    if i in vowels:
        count=count+1
print('number of consonants in text:',count)
```

```
number of consonants in text: 3
```

49. How do you check if a string entered by the user contains any punctuation?

In [67]:
```
# answer
import string
text=input('enter a string:')
if any(char in string.punctuation for char in text):
    print('contains punctuations')
else:
    print('not contains punctuations')
```

```
contains punctuations
```

In [71]:
```
import string
text=input('enter a string:')
if any(char in string.punctuation for char in text):
    print('contains punctuations')
else:
    print('not contains punctuations')
```

```
not contains punctuations
```

In [73]:
```
import string
text=input('enter a string:')
if any(char in string.punctuation for char in text):
    print('contains punctuations')
else:
    print('not contains punctuations')
```

```
contains punctuations
```

50. Write a program that accepts a sentence and prints the longest word.

In [76]:
```
# answer
sentence=input('enter the sentence:')
words=sentence.split()
long_words=max(words,key=len)
print('longest word is:',long_words)
```

```
longest word is: programming
```

In [78]:
```
sentence=input('enter the sentence:')
words=sentence.split()
print('longest word is:',max(words,key=len))
```

```
longest word is: completed
```

In [ ]:
```

```