# Python statement and arithmetic operators

1. Using input() function accepts 3 numbers from user and print the biggest number.

Ans)

|  |
| --- |
| i=0  l=[]  while i<=2:  a=int(input("Enter the number: "))  l.append(a)  i+=1  print("Largest Number: ",max(l)) |
| Enter the number: 12  Enter the number: 34  Enter the number: 22  Largest Number: 34 |

Store the below words and each variable and print it

Sample input

All work and no play make Jack a dull boy.

Ans)

|  |
| --- |
| Code:- a="All work and no play make Jack a dull boy."  words=a.split()  for word in words:  print(word) |
| All  work  and  no  play  make  Jack  a  dull  boy. |

1. Accept and long string from user and find the number of vowels in that string.

Sample input

My name is Paul I live in Mumbai.

|  |
| --- |
| a=input("Enter the sentence: \n")  a.lower()  count=0  vowels="aeiou"  for char in a:  if char in vowels:  count+=1  else:  count=0  print(count) |
| Enter the sentence:  aeiou  5 |

1. Input 2 numbers from user and an operator from user + , - ,\* , / based on operator do the operation

Sample input

10 10 \* it should do multiplication and display the output.

|  |
| --- |
| a=int(input("Enter the number: "))  b=int(input("Enter the number: "))  print("Choose (+ or - or \* or %)")  c=input("Enter the Operator: ")  if c=="+":  print(a+b)  elif c=="-":  print(a-b)  elif c == "\*":  print(a\*b)  elif c == "/":  print( a/b)  elif c == "%":  print( a%b)  else:  print("Valid Operator") |
| Enter the number: 12  Enter the number: 22  Choose (+ or - or \* or %)  Enter the Operator: +  34 |

# Python Conditioning if and else

1. Accept a number from store it in variable name as age

If the age greater then 18 and equal to 60 then print Person can vote

If the age is less than 18 and greater than 0 print Person cannot vote

Else print invalid age.

|  |
| --- |
| a=int(input("Enter age: \n"))  if a>18 and a<=60:  print("Eligible to vote")  elif a>0 and a<18:  print("Not eligible to vote")  else:  print("Invalid Input") |
| Enter age:  12  Not eligible to vote |

1. Accept a character from user and check whether is vowel or not.

|  |
| --- |
| a=input("Enter a character: \n")  a.lower()  vowels="aeiou"  if char in vowels:  print("It is vowel")  else:  print("it is not a vowel") |
| Enter a character:  a  It is vowel |

1. Accept username and password as string from user. If the username==” Admin” and password==”123” then print Welcome Admin else print invalid username or password.

|  |
| --- |
| user=input("User Name: ")  password=input("Password: ")  if user=="Admin" and password=="123":  print("Welcome Admin")  else:  print("Invalid username or password") |
| User Name: Admin  Password: 111  Invalid username or password |

# Python logical operators

1. Enter the following expressions into the Python shell and observe the output:

True or False True

True and False False

not (False) and True True

True or 7

False or 7

True and 0

False or 8

"happy" and "sad"

"happy" or "sad"

"" and "sad"

"happy" and "“

|  |
| --- |
| print(True or False)  print(True and False)  print(not(False) and True)  print(True or 7)  print(False or 7)  print(True and 0)  print(False or 8)  print("happy" and "sad")  print("happy" or "sad")  print("" and "sad")  print("happy" and "") |
| True  False  True  True  7  0  8  sad  happy |

# Python Loops

1. Write a program using while loop to print even numbers in range of 1 to 25.

|  |
| --- |
| i=1  print("Using WHILE LOOP")  while i<25:  if i%2==0:  print(i)  i+=1 |
| Using WHILE LOOP  2  4  6  8  10  12  14  16  18  20  22  24 |

1. Write the same using for loop.

|  |
| --- |
| print("Using FOR LOOP")  for i in range (1,25):  if i % 2 ==0:  print(i) |
| Using FOR LOOP  2  4  6  8  10  12  14  16  18  20  22  24 |

1. Write a program using while loop to evaluate factorial of a number.

|  |
| --- |
| print("Factorial of a Number (User Input): ")  number = int(input("Enter the number : "))  z=1  for i in range (2, number+1):  z\*=i  print(z,"\n") |
| Factorial of a Number (User Input):  Enter the number : 5  120 |

1. Write a function sum\_of\_squares that computes the sum of the squares

Example, sum\_of\_squares(987) should return 194, since9\*\*2 + 8\*\*2 + 7\*\*2 == 81 + 64 + 49 == 194

Sample

sum\_of\_squares(1)

1

sum\_of\_squares(9)

81

sum\_of\_squares(11)

2

sum\_of\_squares(121)

6

|  |
| --- |
| print("Sum of Squares")  a=int(input("Enter the number: "))  digits=[int(d) for d in str(a)]  sum\_of\_squares= sum(d\*\*2 for d in digits)  print(sum\_of\_squares) |
| Sum of Squares  Enter the number: 121  6 |

1. Write a Python program to get the Fibonacci series between 0 to 50.

Note : The Fibonacci Sequence is the series of numbers :

0, 1, 1, 2, 3, 5, 8, 13, 21, ....

Every next number is found by adding up the two numbers before it.

Expected Output : 1 1 2 3 5 8 13 21 34

|  |
| --- |
| print("Fibonacci Series")  a,b=0,1  while a<=50:  print(a,end=" ")  a,b=b,a+b |
| Fibonacci Series  0 1 1 2 3 5 8 13 21 34 |