

Week - 1

Program:

```
num1=float(input("Enter the first number:"))
num2=float(input("Enter the second number:"))
num3=float(input("Enter the third number:"))
if(num1>=num2)and (num1>=num3):
    largest=num1
elif(num2>=num1)and(num2>=num3):
    largest=num2
else:
    largest=num3
print("The largest number is",largest)
```

OUTPUT:

Enter the first number:25

Enter the second number:33

Enter the third number:24

The largest number is 33.0



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Program:

```
lower_value=int(input("Please ,Enter the lowest range value: "))
upper_value=int(input("Please ,Enter the upper range value: "))
print("The prime numbers in the range")
for number in range(lower_value,upper_value+1):
    count=0
    for i in range(1,number+1):
        if number%i==0:
            count+=1
    if count==2:
        print(number)
```

OUTPUT:

Please ,Enter the lowest range value: 10

Please ,Enter the upper range value: 30

The prime numbers in the range

11

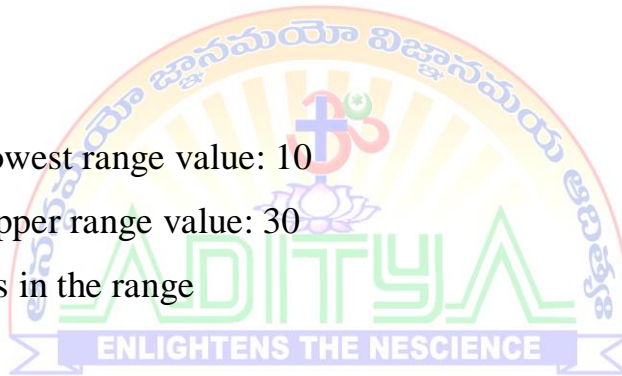
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17

19

23

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Program:

```
a=int(input("Enter a value"))
b=int(input("Enter a value"))
print("Before swapping")
print(a,b, sep=' ')
a,b=b,a
print("After Swapping")
print(a,b, sep=' ')
```

OUTPUT:

```
Enter a value10
Enter a value20
Before swapping
10 20
After Swapping
20 10
```



Program:

OUTPUT:

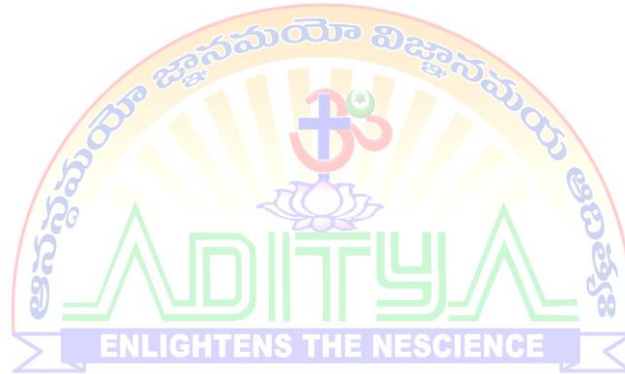
Relational Operators

Program:

```
a=13
b=8
print("a==b:",a==b)
print("a!=b:",a!=b)
print("a>b:",a>b)
print("a<b:",a<b)
print("a>=b:",a>=b)
print("a<=b:",a<=b)
```

OUTPUT:

```
a==b: False
a!=b: True
a>b: True
a<b: False
a>=b: True
a<=b: False
```



Assignment Operators

Program:

```
a = 3
b = 5
a += b
print("a+=b=",a)
a -= b
print("a-=b=",a)
a *= b
print("a*=b=",a)
a /= b
print("a /= b",a)
a %= b
print("a %= b",a)
a //= b
print("a //= b",a)
a **= b
print("a **= b",a)
```



OUTPUT:

```
a+=b= 8
a-=b= 3
a*=b= 15
a /= b 3.0
a %= b 3.0
a //= b 0.0
a **= b 0.0
```

Logical Operators

Program:

```
x = 10
```

```
y = 20
```

```
print("x > 5 and y < 30 =", x > 5 and y < 30)
```

```
print("x > 15 or y > 15 =", x > 15 or y > 15)
```

```
print("not (x == 10) =", not (x == 10))
```

OUTPUT:

```
x > 5 and y < 30 = True
```

```
x > 15 or y > 15 = True
```

```
not (x == 10) = False
```

Ternary Operator

Program:

```
a = 10
```

```
b = 25
```

```
c = 15
```

```
largest = a if a > b and a > c else b if b > c else c
```

```
print(f"The largest number is: {largest}")
```

OUTPUT:

```
The largest number is: 25
```





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Bitwise Operators

Program:

```
a = 10
```

```
b = 4
```

```
print("a & b =", a & b)
```

```
print("a | b =", a | b)
```

```
print("a ^ b =", a ^ b)
```

```
print("~a =", ~a)
```

```
print("a << 2 =", a << 2)
```

```
print("a >> 2 =", a >> 2)
```

OUTPUT:

```
a & b = 0
```

```
a | b = 14
```

```
a ^ b = 14
```

```
~a = -11
```

```
a << 2 = 40
```

```
a >> 2 = 2
```



Membership Operators

Program:

```
my_string = "Hello, Python!"  
print('Hello' in my_string)  
print('Java' in my_string)  
print('Python' not in my_string)  
print('World' not in my_string)
```

OUTPUT:

True

False

False

True

Identity Operators

Program:

```
string1 = "Python"  
string2 = "Python"  
string3 = "Java"  
string4 = string1  
print(string1 is string2)  
print(string1 is string3)  
print(string1 is string4)  
print(string1 is not string3)
```



OUTPUT:

True

False

True

True



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Program:

```
num1 = 2 + 3j
```

```
num2 = 4 + 5j
```

```
sum_result = num1 + num2
```

```
print(f"Sum of {num1} and {num2} is: {sum_result}")
```

```
mul_result = num1 * num2
```

```
print(f"Multiplication of {num1} and {num2} is: {mul_result}")
```

OUTPUT:

Sum of (2+3j) and (4+5j) is: (6+8j)

Multiplication of (2+3j) and (4+5j) is: (-7+22j)



Week-3

Program:

```
num=int(input("Enter a number "))  
for i in range(1,11):  
    print(num," X ",i," = ",(num*i))
```

OUTPUT:

Enter a number 5

5 x 1 = 5

5 x 2 = 10

5 x 3 = 15

5 x 4 = 20

5 x 5 = 25

5 x 6 = 30

5 x 7 = 35

5 x 8 = 40

5 x 9 = 45

5 x 10 = 50



Week-4

Program:

```
def name():  
    return "Gowtham","Asif"  
  
print(name())  
  
name_1,name_2=name()  
  
print(name_1,name_2)
```

OUTPUT:

('Gowtham', 'Asif')
Gowtham Asif



Program:

```
def display(name,course="B.Tech"):  
    print("Name:",name)  
    print("course:",course)  
display(course="BSC",name="Asif")  
display(name="Gowtham")
```

OUTPUT:

Name: Asif
course: BSC
Name: Gowtham
course: B.Tech



Program:

```
string='Hello how r u'  
count=0  
for i in string:  
    count+=1  
print(count)
```

OUTPUT:

13



Week-5

Program:

```
a="Hello World"
```

```
b="ello"
```

```
print(b in a)
```

OUTPUT:

True



Program:

```
list1=["python",50,"java",3,"c"]  
list1.append("javascript")  
print("The list elements are: ",list1)
```

OUTPUT:

The list elements are: ['python', 50, 'java', 3, 'c', 'javascript']

ii) Insertion operation:

Program:

```
list1=["c","python",50,"java","javascript"]  
print("list is : ",list1)  
insertItem="HTML"  
indexValue=0  
list1.insert(indexValue,insertItem)  
print("updated list: ")  
print(list1)
```

OUTPUT:

list is : ['c', 'python', 50, 'java', 'javascript']
updated list:
['HTML', 'c', 'python', 50, 'java', 'javascript']

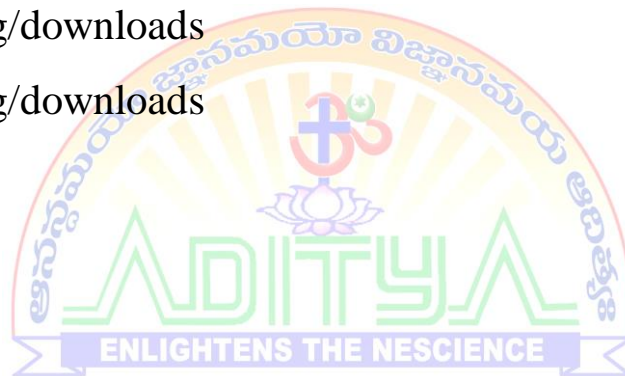
iii) Slicing:

PROGRAM:

```
tag="http://python.org/downloads"  
tag[0:17]  
print(tag)  
tag[18:-1]  
print(tag)  
s=tag[1::2]  
print(s)
```

OUTPUT:

```
http://python.org/downloads  
http://python.org/downloads  
tp/pto.r/onod
```



PROGRAM:

```
list1=[90,120,80,40,50,60,70]
list1_length=len(list1)
print("The length of the list is: ",list1_length)
max_value=max(list1)
print("Maximum value in the list is : ",max_value)
min_value=min(list1)
print("minimum value in the list is : ",min_value)
sum_list1=sum(list1)
print("sum of all the elements in the list is: ",sum_list1)
sort_list1=sorted(list1)
print("sorted list is : ",sort_list1)
```

OUTPUT:

The length of the list is: 7
Maximum value in the list is : 120
minimum value in the list is : 40
sum of all the elements in the list is: 510
sorted list is : [40, 50, 60, 70, 80, 90, 120]

Week-6

PROGRAM:

```
p1=('Sai',19,'Aditya')  
p2=('Sandeep',18,'Aditya')  
concat=p1+p2  
print(concat)
```

OUTPUT:

('Sai', 19, 'Aditya', 'Sandeep', 18, 'Aditya')





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PROGRAM:

```
s=input('Enter the string:')
```

```
s.lower()
```

```
count=s.count('a')+s.count('e')+s.count('i')+s.count('o')+s.count('u')
```

```
print(count)
```

OUTPUT:

Enter the string:Aditya engnerring college

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PROGRAM:

```
marks={'c':70,'python':90,'c++':80}
```

```
print(marks)
```

```
if 'java' in marks:
```

```
    print('key exists')
```

```
else:
```

```
    print('key does not exists')
```

OUTPUT:

```
{'c': 70, 'python': 90, 'c++': 80}
```

```
key does not exists
```



Week-7

PROGRAM:

```
sub={ 1:'python',2:'c',3:'java'}  
print(sub)  
sub[4]='c++'  
sub[5]='os'  
print(sub)
```

OUTPUT:

```
{1: 'python', 2: 'c', 3: 'java'}  
{1: 'python', 2: 'c', 3: 'java', 4: 'c++', 5: 'os'}
```





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PROGRAM:

```
d={'key1':200,'key2':400,'key3':150}  
result=sum(d.values())  
print('sum is:',result)
```

OUTPUT:

sum is: 750



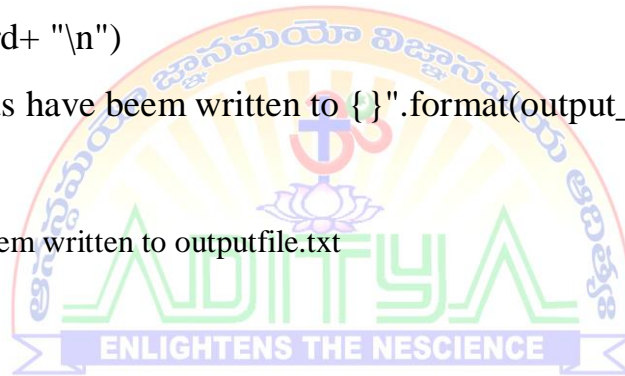
Week-8

PROGRAM:

```
input_file="inputfile.txt"
output_file="outputfile.txt"
with open(input_file,"r") as file:
    data=file.read()
words=data.split()
lowerCaseWOrdS=[word.lower() for word in words]
sorted_words=sorted(lowerCaseWOrdS)
with open(output_file,"w") as file:
    for word in sorted_words:
        file.write(word+ "\n")
print("Sorted words have been written to {}".format(output_file))
```

OUTPUT:

Sorted words have been written to outputfile.txt





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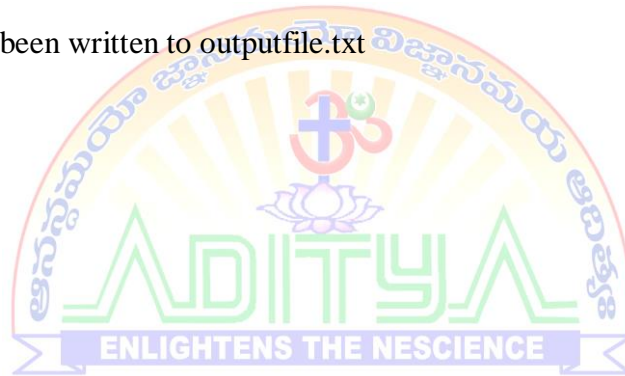
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PROGRAM:

```
input_file="inputfile.txt"
output_file="outputfile.txt"
file=open(input_file,"r")
data=file.read()
file.close()
reversedData=data[::-1]
file=open(output_file,"w")
file.write(reversedData)
file.close()
print("Reversed content has been written to {}".format(output_file))
```

OUTPUT:

Reversed content has been written to outputfile.txt





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PROGRAM:

```
wordCount = 0
lineCount = 0
characterCount = 0
with open("inputfile.txt","r") as file:
    for i in file:
        wordCount += len(i.split())
        lineCount += 1
        characterCount += len(i)
print("Number of words: ",wordCount)
print("Number of lines: ",lineCount)
print("Number of characters: ",characterCount)
```

OUTPUT:

Number of words: 5
Number of lines: 5
Number of characters: 28



Week-9

PROGRAM:

```
import array as a
arr=a.array('i',[10,20,30])
print(arr)
arr.append(40)
print(arr)
arr.insert(2,50)
print(arr)
arr.reverse()
print(arr)
```

OUTPUT:

```
array('i', [10, 20, 30])
array('i', [10, 20, 30, 40])
array('i', [10, 20, 50, 30, 40])
array('i', [40, 30, 50, 20, 10])
```





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PROGRAM:

```
arr1=[[1,2],[3,4]]
arr2=[[5,6],[7,8]]
r=[[0,0],[0,0]]
for i in range(len(arr1)):
    for j in range(len(arr1)):
        r[i][j]=arr1[i][j]+arr2[i][j]
print(r)
for i in range(len(arr1)):
    for j in range(len(arr1)):
        r[j][i]=arr1[i][j]+arr2[i][j]
print(r)
r_mul=[[0,0],[0,0]]
for i in range(len(arr1)):
    for j in range(len(arr1)):
        c=0
        for k in range(len(arr1)):
            c+=arr1[i][k]+arr2[k][j]
        r_mul[i][j]=c
print(r_mul)
```

OUTPUT:

```
[[6, 8], [10, 12]]
[[6, 10], [8, 12]]
[[15, 17], [19, 21]]
```