**CONTROL STATEMENTS IN PYTHON**

**CONDITIONAL STATEMENTS**

**IF**

**Sytax**: if conditions :

body

**IF…ELSE**

**Sytax:** if conditions :

Body

else:

Body

**Examples**

inputNo=int(input(*"Enter a number : "*))

if (inputNo%2 == 0) :

print(inputNo, *"is even"*)

else:

print(inputNo, *"is Odd"*)

**Output**

Enter a number : 5

5 is Odd

Enter a number : 20

20 is even

**IF..ELIF..ELSE**

**Sytax:** if conditions :

Body

elif conditions:

Body

else:

Body

**Examples**

# IF ELIF ELSE

if (inputNo == 0):

print(inputNo, *"is Zero"*)

elif (inputNo%2 == 0):

print(inputNo, *"is even"*)

else:

print(inputNo, *"is Odd"*)

**Output**

Enter a number : 20

20 is even

Enter a number : 0

0 is Zero

**ASSIGNMENT#**

mathMark=int(input(*"Enter the Maths Mark : "*))

phyMark=int(input(*"Enter the Physics Mark : "*))

chemMark=int(input(*"Enter the Chemistry Mark : "*))

if ((mathMark<=35) and (phyMark<=35) and (chemMark <=35)):

print(*"Student Failed"*)

else:

sumMark = mathMark + phyMark + chemMark

avgMark = sumMark/3

print(*"============================"*)

print(*"Maths Mark : "*,mathMark)

print(*"Physics Mark : "*,phyMark)

print(*"Chemistry Mark : "*,chemMark)

print(*"============================"*)

print(*"Total Marks : "*, sumMark)

print(*"============================"*)

print(*"Average Marks : "*, avgMark)

print(*"============================"*)

if(avgMark >= 70):

print(*"The Grade is A"*)

elif(avgMark >=60 and avgMark<=69):

print(*"The Grade is B"*)

elif(avgMark >= 35 and avgMark <=59):

print(*"The Grade is C"*)**Output:**

Enter the Maths Mark : 25

Enter the Physics Mark : 25

Enter the Chemistry Mark : 25

Student Failed

Enter the Maths Mark : 75

Enter the Physics Mark : 68

Enter the Chemistry Mark : 98

============================

Maths Mark : 75

Physics Mark : 68

Chemistry Mark : 98

============================

Total Marks : 241

============================

Average Marks : 80.33333333333333

============================

The Grade is A

Enter the Maths Mark : 63

Enter the Physics Mark : 62

Enter the Chemistry Mark : 63

============================

Maths Mark : 63

Physics Mark : 62

Chemistry Mark : 63

============================

Total Marks : 188

============================

Average Marks : 62.666666666666664

============================

The Grade is B

**LOOPING STATEMENTS**

**WHILE LOOP**

**Sytax:**

While <condition> :

Statements

**Code**

numVal=int(input(*"Enter the Value to be looped : "*))

x=1

while(x<=numVal):

print(x)

x+=1

**Output**

Enter the Value to be looped : 5

1

2

3

4

5

**Code**

minVal=int(input(*"Enter the Min Number : "*))

maxVal=int(input(*"Enter the Max Number : "*))

chkVal = minVal

while(chkVal<=maxVal):

if(chkVal%2 == 0):chkVal=minVal+1

else:

print(chkVal)

chkVal+=2

**Output**

Enter the Min Number : 10

Enter the Max Number : 20

11

13

15

17

19

**FOR LOOP**

**Sytax:**

for var in sequence :

statements

**Code**

for i in range(50,60):

print(i)

print(*"==============="*)

for x in range(50,60,2):

print(x)

**Output**

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**Code**

factorialList=[1,2,3,4,5,6,7,8,9]

prod=1;

for i in factorialList:

prod\*=i

print(*"Factorial for the above list : "*, prod)

**Output**

Factorial for the above list : 362880

**Code**

val=int(input(*"Enter the Multiplication Table for.... "*))

for i in range(1,11):

print(val, *"X"* , i, *"="*, i\*val )

**Output**

Enter the Multiplication Table for.... 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

**TRANSFER**

**BREAK / CONTINUE / ASSERT**

**Code**

# BREAK DEMO

lst=[5,10,15,25,30,35,40,45,50]

for i in lst:

if(i==30):

break

print(i)

print(*"========="*)

# CONTINUE DEMO

x=0

while x<20:

x+=1

if(x%3 ==0):

continue

print(x)

print(*"========="*)

#ASSERT DEMO

ival = int(input(*"Enter the number greater than 10 : "*))

assert ival>10, *"Wrong number ..... Number should be grater than 10"*

print(*"The number entered is "*,ival)

**Output**

5

10

15

25

=========

1

2

4

5

7

8

10

11

13

14

16

17

19

20

=========

Enter the number greater than 10 : 5

Traceback (most recent call last):

File "C:\Users\kamal\OneDrive\Desktop\Python\Python Examples\controlstatements\breakEgs.py", line 23, in <module>

assert ival>10, "Wrong number ..... Number should be grater than 10"

AssertionError: Wrong number ..... Number should be grater than 10

**DUPLICATE REMOVAL PROGAM**

**Code**

li = eval(input(*'Enter the list of numbers : '*))

print(*"===========LIST OF ELEMENTS ================="*)

print(li)

print(*"============WAY OF REMOVAL USING CREATING ANOTHER LIST================"*)

# HARD WAY

l2 = []

for eachVal in li:

if(eachVal not in l2):

l2.append(eachVal)

print(l2)

#EASY WAY

print(*"=========== WAY OF REMOVAL OF DUPLICATES USING SET================="*)

setVal = set(li)

print(setVal)

**Output**

Enter the list of numbers : [10,20,30,40,50,20,30,70,40,80,50,90,100]

===========LIST OF ELEMENTS =================

[10, 20, 30, 40, 50, 20, 30, 70, 40, 80, 50, 90, 100]

============WAY OF REMOVAL USING CREATING ANOTHER LIST================

[10, 20, 30, 40, 50, 70, 80, 90, 100]

=========== WAY OF REMOVAL OF DUPLICATES USING SET=================

{100, 70, 40, 10, 80, 50, 20, 90, 30}

**VOWEL COUNT PROGAM**

**Code**

word = input(*"Enter a word to count the vowels : "*)

vowels = {*'a'*, *'e'*, *'i'*, *'o'*, *'u'*}

results = {}

for c in word:

if c in vowels:

results[c] = results.get(c,0)+1

for k,v in sorted(results.items()):

print(k, *"is present "*, v, *"times"*)

**Output**

Enter a word to count the vowels : augustaraju

a is present 3 times

u is present 3 times

**EMPLOYEE DETAILS LIST PROGRAM**

**Code**

empNos = int(input(*"Enter the number of Employees : "*))

employees = {}

for i in range(empNos):

name = input(*"Enter the Employee Name : "*)

salary = float(input(*"Enter the Employee Salary : "*))

employees[name]= salary

while True:

name = input(*"Enter the Employee name to be retrieved : "*)

salary = employees.get(name, -1)

if salary == -1 :

print(*"Employee not exists"*)

else:

print(*"The salary of the employee is "*, salary)

chVal = input(*"Enter Yes / No to Continue : "*)

if chVal == *'No'*:

break

**Output**

Enter the number of Employees : 4

Enter the Employee Name : Kamal

Enter the Employee Salary : 85000

Enter the Employee Name : Augusta

Enter the Employee Salary : 65000

Enter the Employee Name : Jazlyn

Enter the Employee Salary : 125000

Enter the Employee Name : Jerrick

Enter the Employee Salary : 100000

Enter the Employee name to be retrieved : Jerrick

The salary of the employee is 100000.0

Enter Yes / No to Continue : Yes

Enter the Employee name to be retrieved : Augusta

The salary of the employee is 65000.0

Enter Yes / No to Continue : No

**PRIME NUMBER OR NOT**

**Code**

noVal = int(input(*"Enter a number amd check is it Prime or Not : "*))

prFlag=True;

i=2;

for i in range(i,noVal-1):

if(noVal%i == 0):

prFlag=False

if(prFlag):

print(*"The given number is Prime Number"*)

else:

print(*"The given number is Not a Prime Number"*)

**Output**

Enter a number amd check is it Prime or Not : 5

The given number is Prime Number

**QUIZ**

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A screenshot of a computer error

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**STRING EXAMPLES – REVERSE A STRING**

**Code**

#REVERSE A STRING

strVal = input(*"Enter the string : "*)

# USING SLICING

print(*"Using Slicing"*)

print(*"============="*)

print(strVal[::-1])

# ANOTHER METHOD

strLen= len(strVal)-1;

result=*""*

while strLen>=0:

result=result+strVal[strLen]

strLen=strLen-1;

print(*"Using Regular Way"*)

print(*"================="*)

print(result)

# USING JOIN

print(*"Using Join Method"*)

print(*"================="*)

print(*''*.join(reversed(strVal)))

**Output**

Enter the string : Augusta

Using Slicing

=============

atsuguA

Using Regular Way

=================

atsuguA

Using Join Method

=================

atsuguA

**STRING EXAMPLES – REVERSE A WORD**

**Code**

wordInput = input(*"Enter a long word : "*)

temp = wordInput.split()

print(*"Splitted Input : "*,temp)

print(*"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"*)

result=[]

i=len(temp)-1

while i >= 0:

result.append(temp[i])

i=i-1;

print(*"REversed Splitted Input"*, result)

output = *' '*.join(result)

print(*"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"*)

print(*"The reverse output is : "*, output)

print(*"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"*)

**Output**

Enter a long word : Tamil is an ancient language .

Splitted Input : ['Tamil', 'is', 'an', 'ancient', 'language', '.']

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

REversed Splitted Input ['.', 'language', 'ancient', 'an', 'is', 'Tamil']

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

The reverse output is : . language ancient an is Tamil

**STRING EXAMPLES – REVERSE THE CHARACTERS OF EACH WORD IN A GIVEN STRING**

**Code**

wordInput = input(*"Enter a long word : "*)

temp = wordInput.split()

print(*"Splitted Input : "*,temp)

print(*"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"*)

result=[]

i=0

while i < len(temp):

result.append(temp[i][::-1])

i=i+1

output=*' '*.join(result)

print(*"Final Output"*,result)

**Output**

Enter a long word : Made in Ireland

Splitted Input : ['Made', 'in', 'Ireland']

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Final Output ['edaM', 'ni', 'dnalerI']

**STRING EXAMPLES – REMOVE THE DUPLICATE CHARS**

**Code**

inputChar = input(*"Enter a String : "*)

temp = []

for c in inputChar:

if c not in temp:

temp.append(c)

output = *''*.join(temp)

print(*"Duplicated Removed from a string : "*, output)

**Output**

Enter a String : asdqieuroq weruqeir

Duplicated Removed from a string : asdqieuro w

**STRING EXAMPLES – COUNT THE CHARACTERS**

**Code**

inputChar = input(*"Enter a String : "*)

dicValue = {}

for c in inputChar:

if c in dicValue.keys():

dicValue[c] = dicValue[c]+1

else:

dicValue[c] = 1

for k,v in dicValue.items():

print(*'{} = {} times '*.format(k,v))

**Output**

Enter a String : podjpoerpto345343;asdj12lk

p = 3 times

o = 3 times

d = 2 times

j = 2 times

e = 1 times

r = 1 times

t = 1 times

3 = 3 times

4 = 2 times

5 = 1 times

; = 1 times

a = 1 times

s = 1 times

1 = 1 times

2 = 1 times

l = 1 times

k = 1 times

**STRING EXAMPLES – PRINT RIGHT ANGLED TRIANGLE**

**Code**

nrows = int(input(*"Enter the no of rows : "*))

#USING 2 FOR LOOPS

for i in range(1,nrows+1):

for j in range(1,i+1):

print(*"A "*,end=*""*)

print()

print(*"========================"*)

nrows1 = int(input(*"Enter the no of rows : "*))

#SAME PROGRAM USING \* VALUE

for i in range(1,nrows1+1):

print(*"A "*\*i)

**Output**

Enter the no of rows : 10

A

A A

A A A

A A A A

A A A A A

A A A A A A

A A A A A A A

A A A A A A A A

A A A A A A A A A

A A A A A A A A A A

========================

Enter the no of rows : 15

A

A A

A A A

A A A A

A A A A A

A A A A A A

A A A A A A A

A A A A A A A A

A A A A A A A A A

A A A A A A A A A A

A A A A A A A A A A A

A A A A A A A A A A A A

A A A A A A A A A A A A A

A A A A A A A A A A A A A A

A A A A A A A A A A A A A A A

**STRING EXAMPLES – PRINT PYRAMID PATTERN**

**Code**

#PYRAMING PATTERN

nrows2 = int(input(*"Enter the no of rows : "*))

for i in range(1,nrows2+1):

print(*" "* \*(nrows2-i),end=*""*)

print(*"\* "*\*i)

**Output**

Enter the no of rows : 5

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

**STRING EXAMPLES – FIND SUBSTRING IN A GIVEN STRING**

**Code**

# FIND SUBSTRING IN A STRING

inString = input(*"Enter the Long String : "*)

subString = input(*"Enter the substring : "*)

found = False

pos = -1

strLen = len(inString)

while True:

pos = inString.find(subString, pos+1, strLen)

if pos == -1:

break

print(*"Found the Sub String at "*, pos, *"position !!!"*)

found=True

if found==False:

print(*"Sub String Not Found !!!!"*)

**Output**

Enter the Long String : To find a sub string in the long string

Enter the substring : sub

Found the Sub String at 10 position !!!

Enter the Long String : Thre is a sub string in the long string

Enter the substring : There

Sub String Not Found !!!!

Enter the Long String : This is a long string, which I have copied from the long paragraph

Enter the substring : long

Found the Sub String at 10 position !!!

Found the Sub String at 52 position !!!