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Run Code

Repetition Structures

```
In [ ]:
```

PRATIWAL S ACHARYA

BITS Pilani

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Repetition Structures

While loop

In [ ]:

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Run Code

Repetition Structures

While loop

```
In [ ]:
```

SUDHARMA KAMALAKAR POTDY

BITS Pilani

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Run Code

Repetition Structures

While loop

```
while <Condition>:
   perform statements
   statement-2
   make sure you set the condition to be false
```

In [ ]: W

YERRAM NALINKANTH

BITS Pilani

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Run Code

While loop

```
while <Condition>:
   perform statements
   statement-2
   make sure you set the condition to be false
```

In [*]:
```
i = 0
while (i < 5):
    print(i)
    #i += 1
```

```
0
0
0
0
0
0
0
0
0
0
0
```

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Run Code

```
statement-2
make sure you set the condition to be false
```

In [3]:
```
i = 0
while (i < 5):
    print(i)
    i += 1
```

```
0
1
2
3
4
```

In [ ]:
```
i = 2
```

RAJESH, A.N
poor connection
Impartus

BITS Pilani

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Run Code

```
statement-2
make sure you set the condition to be false
```

In [3]:
```
i = 0
while (i < 5):
    print(i)
    i += 1
```

```
0
1
2
3
4
```

In [ ]:
```
i = 2
while (i < 15):
    print(i, end= )
```

SOUMIK SENGUPTA

BITS Pilani

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Run Code

```
0
1
2
3
4
```

In [4]:
```
i = 2
while (i < 15):
    print(i, end='')

    i += 4

print()
```

```
261014
```

In [ ]:

SANJEEV KUMAR

BITS Pilani

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Run Code

```
1
2
3
4
```

In [5]:
```
i = 2
while (i < 15):
    print(i, end=' ')

    i += 4

print()
```

```
2 6 10 14
```

In [ ]:

GUDDETY GREESHMA
ok, thank u sir
Impartus

BITS Pilani

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Run Code

```
4
```

In [5]:
```
i = 2
while (i < 15):
    print(i, end=' ')

    i += 4

print()
```

```
2 6 10 14
```

In [ ]:
```
i = -2

while (i > -10):
    print(i, end=' ')
```

PRASHANT LAKHANPAL
Why is the ":" sign at the end of While statement ???

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Run Code

```
4
```

In [5]:
```
i = 2
while (i < 15):
    print(i, end=' ')

    i += 4

print()
```

```
2 6 10 14
```

In [ ]:
```
i = -2

while (i > -10):
    print(i, end=' ')
    i -= 3

print()
```

DARAPU HARISHANKAR
Brackets are considered relevant in case of python programming.

BITS Pilani

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```
    i += 4

print()
```

```
2 6 10 14
```

In [6]:
```
i = -2

while (i > -10):
    print(i, end=' ')
    i -= 3

print()
```

```
-2 -5 -8
```

In [ ]:

RISHABH BANDI
its python syntax

BITS Pilani

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In [3]:
```
i = 0
while (i < 5):
    print(i)
    i += 1
```

```
0
1
2
3
4
```

In [5]:
```
# end is a parameter for print function t

i = 2
while (i < 15):
    print(i, end=' ')

    i += 4

print()
```

```
2 6 10 14
```

In [6]:
```
i = -2
```

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Run Markdown

```
    print(i, end=' ')

    i += 4

print()
```

```
2 6 10 14
```

In [6]:
```
i = -2

while (i > -10):
    print(i, end=' ')
    i -= 3

print()
```

```
-2 -5 -8
```

```
###
```

DHONGADE SONALIRAJESH
This is confusing can you please repeat or give some more example

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Run Raw NBConvert

In [6]:
```
i = -2

while (i > -10):
    print(i, end=' ')
    i -= 3

print()
```

```
-2 -5 -8
```

for-loop

```
for x in range(start, end, step):
```

In [ ]:
```
for i in range(10):
    print(i)
```

BITS Pilani

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Run Code

```
print()
```

```
-2 -5 -8
```

for-loop

```
for x in range(start, end, step):
    statement
    statement
    statement
```

In [ ]:

```
# 10 is the end number (not inclusive)
# start - defaults to 0

for i in range(10):
    print(i)
```

BITS Pilani

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Run Code

```
print()
```

```
0 1 2 3 4 5 6 7 8 9
```

In [9]:

```
# start = 5
# end = 10 (not inclusive)
# step = 1

for i in range(5, 10): #5,6,7,8,9
    print(i, end=' ')

print()
```

```
5 6 7 8 9
```

In [ ]:

SHAH PANKTI ANILKUMAR

BITS Pilani

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Run Code

In [3]:
```
i = 0
while (i < 5):
    print(i)
    i += 1
```

```
0
1
2
3
4
```

In [5]:
```
# end is a parameter for print function that supresses
# \n new line character

i = 2
while (i < 15):
    print(i, end=' ')

    i += 4

print()
```

```
2 6 10 14
```

BITS Pilani

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Run Code

In [8]:
```
# 10 is the end number (not inclusive)
# start - defaults to 0
# step - defaults to +1

for i in range(10): #0,1,2,3....,9
    print(i, end=' ')

print()
```

```
0 1 2 3 4 5 6 7 8 9
```

In [9]:
```
# start = 5
# end = 10 (not inclusive)
# step = 1

for i in range(5, 10): #5,6,7,8,9
    print(i, end=' ')

print()
```

```
5 6 7 8 9
```

In [ ]:

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Run Raw NBConvert

for-loop

```
for loop is called as counter-controlled loop

for x in range(start, end, step):
    statement
    statement
    statement
```

In [8]:
```
# 10 is the end number (not inclusive)
# start - defaults to 0
# step - defaults to +1

for i in range(10): #0,1,2,3....,9
    print(i, end=' ')

print()
```

```
0 1 2 3 4 5 6 7 8 9
```

In [9]:
```
# start = 5
# end = 10 (not inclusive)
# step = 1
```

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Run Code

```
# start - defaults to 0
# step - defaults to +1

for i in range(10): #0,1,2,3....,9
    print(i, end=' ')

print()
```

```
0 1 2 3 4 5 6 7 8 9
```

In [9]:

```
# start = 5
# end = 10 (not inclusive)
# step = 1

for i in range(5, 10): #5,6,7,8,9
    print(i, end=' ')

print()
```

```
5 6 7 8 9
```

In [ ]:

VAIBHAV JAIN

why we are using 2 print statements as for loop is ?

BITS Pilani

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Trusted | Python 3

Run | Code

```
print()
```

```
0 1 2 3 4 5 6 7 8 9
```

In [9]:

```
# start = 5
# end = 10 (not inclusive)
# step = 1

for i in range(5, 10): #5,6,7,8,9
    print(i, end=' ')

print()
```

```
5 6 7 8 9
```

In [ ]:

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Run Code

```
for i in range(5, 10): #5,6,7,8,9
    print(i, end=' ')

print()
```

```
5 6 7 8 9
```

In [10]:
```
for i in range(5, 15, 3): #5, 8, 11, 14
    print(i, end=' ')

print()
```

```
5 8 11 14
```

In [ ]:

BITS Pilani

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Run Raw NBConvert

```
for i in range(5, 10): #5,6,7,8,9
    print(i, end=' ')

print()
```

```
5 6 7 8 9
```

In [10]:
```
for i in range(5, 15, 3): #5, 8, 11, 14
    print(i, end=' ')

print()
```

```
5 8 11 14
```

```
#Comparision between a while and a for loop

1) Initialize variable
```

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Run Code

```
for i in range(5, 10): #5,6,7,8,9
    print(i, end=' ')

print()
```

```
5 6 7 8 9
```

In [10]:
```
for i in range(5, 15, 3): #5, 8, 11, 14
    print(i, end=' ')

print()
```

```
5 8 11 14
```

```
#Comparision between a while and a for loop

1) Initialize variable
2) Check the condition
3) Execute statements
4) Increment/decrement the counter
```

BITS Pilani

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```
for i in range(5, 10): #5,6,7,8,9
    print(i, end=' ')

print()
```

```
5 6 7 8 9
```

In [10]:
```
for i in range(5, 15, 3): #5, 8, 11, 14
    print(i, end=' ')

print()
```

```
5 8 11 14
```

```
#Comparision between a while and a for loop

1) Initialize variable (i=5)
2) Check the condition (I
3) Execute statements
4) Increment/decrement the counter
```

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Run Raw NBConvert

```
5 6 7 8 9
```

In [10]:
```
for i in range(5, 15, 3): #5, 8, 11, 14
    print(i, end=' ')

print()
```

```
5 8 11 14
```

```
#Comparision between a while and a for loop

1) Initialize variable (i=5) - One time execution
2) Check the condition (i < 15)
3) Execute statements  (printing i)
4) Increment/decrement the counter (i += 3) - go back to step 2
```

BITS Pilani

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```
5 6 7 8 9
```

In [10]:
```
for i in range(5, 15, 3): #5, 8, 11, 14
    print(i, end=' ')

print()
```

```
5 8 11 14
```

```
#Comparision between a while and a for loop

1) Initialize variable (i=5) - One time execution
2) Check the condition (i < 15)
3) Execute statements  (printing i)
4) Increment/decrement the counter (i += 3) - go back to step 2
```

In [ ]:
```
i = 5
```

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In [10]:
```
for i in range(5, 15, 3): #5, 8, 11, 14
    print(i, end=' ')

print()
```

```
5 8 11 14
```

```
#Comparision between a while and a for loop

1) Initialize variable (i=5) - One time execution
2) Check the condition (i < 15)
3) Execute statements  (printing i)
4) Increment/decrement the counter (i += 3) - go back to step 2
```

In [11]:
```
i = 5
while (i < 15):
    print(i, end=' ')
    i += 3

print()
```

```
5 8 11 14
```

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Run Code

```
1) Initialize variable (i=5) - One time execution
2) Check the condition (i < 15)
3) Execute statements  (printing i)
4) Increment/decrement the counter (i += 3) - go back to step 2
```

In [11]:
```
i = 5
while (i < 15):
    print(i, end=' ')
    i += 3

print()
```

```
5 8 11 14
```

In [ ]:

PRAVEEN KUMAR R
This For Loop acts similar to For Each loop
Important

BITS Pilani

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Run Code

```
1) Initialize variable (i=5) - One time execution
2) Check the condition (i < 15)
3) Execute statements  (printing i)
4) Increment/decrement the counter (i += 3) - go back to step 2
```

In [11]:
```
i = 5
while (i < 15):
    print(i, end=' ')
    i += 3

print()
```

```
5 8 11 14
```

In [ ]:
```
# Code to double the investment
```

MOHD SAIFULLAH ANSARI

BITS Pilani

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Run Code

In [ ]:
```
# Code to double the investment
# You invest certain amount for certain interest rate
# how long does it take for the investement to double

years = 0
initialAmount = 100000
rateOfInterest = 6.99

targetAmount = initialAmount * 2

balance = initialAmount #running total

while (balance <= targetAmount):
    years += 1

    #Calculate interest amount
    interestAmount = balance * rateOfInterest/100

    #Update balance

    balance += interestAmount
```

SHEIKH ISRAR AHMED ANSAR HUSSAIN

BITS Pilani

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Run | Code

```python
# You invest certain amount for certain interest rate
# how long does it take for the investement to double

years = 0
initialAmount = 100000
rateOfInterest = 6.99

targetAmount = initialAmount * 2

balance = initialAmount #running total

while (balance <= targetAmount):
    years += 1

    #Calculate interest amount
    interestAmount = balance * rateOfInterest/100

    #Update balance
    # This statement eventually changes the condition to false
    balance += interestAmount

message = "The investment of %.2f becomes %.2f in %d years" %(initialAmount, balance, years)
```

BITS Pilani

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```
while (balance <= targetAmount):
    years += 1

    #Calculate interest amount
    interestAmount = balance * rateOfInterest/100

    #Update balance
    # This statement eventually changes the condition to false
    balance += interestAmount

message = "The investment of %.2f becomes %.2f in %d years" %(initialAmount, balance, years)

print(message)
```

```
The investment of 100000.00 becomes 210268.91 in 11 years
```

In [ ]:

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```
rateOfInterest = 6.99

targetAmount = initialAmount * 2

balance = initialAmount #running total

while (balance <= targetAmount):
    years += 1

    #Calculate interest amount
    interestAmount = balance * rateOfInterest/100

    #Update balance
    # This statement eventually changes the condition to false
    balance += interestAmount

    print("%4d : %.2f" %(years, balance))

message = "The investment of %.2f becomes %.2f in %d years" %(initialAmount, balance, years)

print(message)
```

```
   1 : 106990.00
   2 : 114468.60
   3 : 122469.96
   4 : 131030.61
```

BITS Pilani

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```
    #Update balance
    # This statement eventually changes the condition to false
    balance += interestAmount

    print("%4d : %.2f : %.2f" %(years, interestAmount, balance))

message = "The investment of %.2f becomes %.2f in %d years" %(initialAmount, balance, years)

print(message)
```

```
   1 : 6990.00 : 106990.00
   2 : 7478.60 : 114468.60
   3 : 8001.36 : 122469.96
   4 : 8560.65 : 131030.61
   5 : 9159.04 : 140189.65
   6 : 9799.26 : 149988.90
   7 : 10484.22 : 160473.13
   8 : 11217.07 : 171690.20
   9 : 12001.14 : 183691.34
  10 : 12840.02 : 196531.37
  11 : 13737.54 : 210268.91
The investment of 100000.00 becomes 210268.91 in 11 years
```

In [ ]:

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Run Code

```
 1 : 6990.00 : 106990.00
 2 : 7478.60 : 114468.60
 3 : 8001.36 : 122469.96
 4 : 8560.65 : 131030.61
 5 : 9159.04 : 140189.65
 6 : 9799.26 : 149988.90
 7 : 10484.22 : 160473.13
 8 : 11217.07 : 171690.20
 9 : 12001.14 : 183691.34
10 : 12840.02 : 196531.37
11 : 13737.54 : 210268.91
The investment of 100000.00 becomes 210268.91 in 11 years
```

In [ ]:

```
# Nested Loop
# Loop inside a Loop
#
```

BITS Pilani

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```
 5 : 9159.04 : 140189.65
 6 : 9799.26 : 149988.90
 7 : 10484.22 : 160473.13
 8 : 11217.07 : 171690.20
 9 : 12001.14 : 183691.34
10 : 12840.02 : 196531.37
11 : 13737.54 : 210268.91
The investment of 100000.00 becomes 210268.91 in 11 years
```

In [ ]:

```
# Nested Loop
# Loop inside a loop
# To build a multiplication table

for i in range(1,11): #1,2,...,10
    for j in range(1,11):

        print()
```

VISHAL GUPTA

BITS Pilani

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```
 10 : 12840.02 : 196531.37
 11 : 13737.54 : 210268.91
The investment of 100000.00 becomes 210268.91 in 11 years
```

In [15]:

```
# Nested Loop
# Loop inside a Loop
# To build a multiplication table

for i in range(1,11): #1,2,....,10
    for j in range(1,11):

        print("%4d" (i * j), end=' ')

    print()
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-15-88179f8fdb4d> in <module>
      6     for j in range(1,11):
      7
----> 8         print("%4d" (i * j), end=' ')
      9
     10     print()

TypeError: 'str' object is not callable
```

VAIDYA YASHODEEP PRASAD PRIYANKA

BITS Pilani

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```
10 : 12840.02 : 196531.37
11 : 13737.54 : 210268.91
The investment of 100000.00 becomes 210268.91 in 11 years
```

In [16]:

```python
# Nested Loop
# Loop inside a Loop
# To build a multiplication table

for i in range(1,11): #1,2,...,10
    for j in range(1,11):

        print("%4d" %(i * j), end=' ')

    print()
```

```
   1    2    3    4    5    6    7    8    9   10
   2    4    6    8   10   12   14   16   18   20
   3    6    9   12   15   18   21   24   27   30
   4    8   12   16   20   24   28   32   36   40
   5   10   15   20   25   30   35   40   45   50
   6   12   18   24   30   36   42   48   54   60
   7   14   21   28   35   42   49   56   63   70
   8   16   24   32   40   48   56   64   72   80
   9   18   27   36   45   54   63   72   81   90
  10   20   30   40   50   60   70   80   90  100
```

BADAL KUMAR

BITS Pilani

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Run Code

```
# Loop inside a loop
# To build a multiplication table

for i in range(1,11): #1,2,...,10
    for j in range(1,11):

        print("%4d" %(i * j), end=' ')

    print()
```

```
   1    2    3    4    5    6    7    8    9   10
   2    4    6    8   10   12   14   16   18   20
   3    6    9   12   15   18   21   24   27   30
   4    8   12   16   20   24   28   32   36   40
   5   10   15   20   25   30   35   40   45   50
   6   12   18   24   30   36   42   48   54   60
   7   14   21   28   35   42   49   56   63   70
   8   16   24   32   40   48   56   64   72   80
   9   18   27   36   45   54   63   72   81   90
  10   20   30   40   50   60   70   80   90  100
```

In [ ]:

BITS Pilani

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Run Code

```
# Loop inside a loop
# To build a multiplication table

for i in range(1,11): #1,2,...,10 # Outer loop
    for j in range(1,11):  #Inner loop

        print("%4d" %(i * j), end=' ')

    print()
```

```
   1    2    3    4    5    6    7    8    9   10
   2    4    6    8   10   12   14   16   18   20
   3    6    9   12   15   18   21   24   27   30
   4    8   12   16   20   24   28   32   36   40
   5   10   15   20   25   30   35   40   45   50
   6   12   18   24   30   36   42   48   54   60
   7   14   21   28   35   42   49   56   63   70
   8   16   24   32   40   48   56   64   72   80
   9   18   27   36   45   54   63   72   81   90
  10   20   30   40   50   60   70   80   90  100
```

In [ ]:

BITS Pilani

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```
# Loop inside a Loop
# To build a multiplication table

for i in range(1,11): #1,2,...,10 # Outer Loop # Rows
    for j in range(1,11):  #Inner Loop # columns

        print("%4d" %(i * j), end=' ')

    print()

## For each value of the outloop
# repeat the inner loop (However many times it is)
```

```
   1    2    3    4    5    6    7    8    9   10
   2    4    6    8   10   12   14   16   18   20
   3    6    9   12   15   18   21   24   27   30
   4    8   12   16   20   24   28   32   36   40
   5   10   15   20   25   30   35   40   45   50
   6   12   18   24   30   36   42   48   54   60
   7   14   21   28   35   42   49   56   63   70
   8   16   24   32   40   48   56   64   72   80
   9   18   27   36   45   54   63   72   81   90
  10   20   30   40   50   60   70   80   90  100
```

In [ ]:

BITS Pilani

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```
## For each value of the outloop
# repeat the inner loop (However many times it is)
```

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

In [ ]:

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Run Code

```
## For each value of the outloop
# repeat the inner Loop (However many times it is)
```

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

In [ ]:
```
# Break and Continue Statment
```

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Run Code

In [17]:
```
# Break and Continue Statment

# Break statement breaks out of the loop completely

i = 5

while(i < 15):
    print(i, end =' ')

    if (i == 10):
        break

    i += 1
```

```
5 6 7 8 9 10
```

In [ ]:

BITS Pilani

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Run Code

```
5 6 7 8 9 10
```

In [18]:
```
numList = [2,6,3,9,5,3,7]

total = 0
i = 0

while (i < len(numList)):
    if (numList[i] == 3):
        i += 1
```

```
  File "<ipython-input-18-247152b65360>", line 6
    while (i < len(numList)):
                            ^
SyntaxError: unexpected EOF while parsing
```

In [ ]:

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Run Code

```
5 6 7 8 9 10
```

In [18]:

```
numList = [2,6,3,9,5,3,7]

total = 0
i = 0

while (i < len(numList)):
    if (numList[i] == 3):
        i += 1
        continue

    sum += numberList[i]

    p
```

```
  File "<ipython-input-18-247152b65360>", line 6
    while (i < len(numList)):
                            ^
SyntaxError: unexpected EOF while parsing
```

In [ ]:

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Run Code

In [19]:
```
numList = [2,6,3,9,5,3,7]

total = 0
i = 0

while (i < len(numList)):
    if (numList[i] == 3):
        i += 1
        continue

    total += numberList[i]

    print(i, " : ", total)
    i += 1
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-19-180c39220b5c> in <module>
      9         continue
     10
---> 11     total += numberList[i]
     12
     13     print(i, " : ", total)
```

SURESH BABASAHEB NIMBALKAR

BITS Pilani

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Run Code

```
10 20 30 40 50 60 70 80 90 100
```

In [17]:

```
# Break and Continue Statment

# Break statement breaks out of the Loop completely

i = 5

while(i < 15):
    print(i, end =' ')

    if (i == 10):
        break

    i += 1
```

```
5 6 7 8 9 10
```

In [20]:

```
numList = [2,6,3,9,5,3,7]
#          0 1 2 3 4 5 6

total = 0
i = 0

#       i < 7
```

VIVEKANAND VISHWAKARMA

BITS Pilani

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Run

```
In [ ]:
```

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Run Code

Strings

```
In [ ]:
```

PIYUSH MITTAL

BITS Pilani

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Run Code

Strings

In [1]:
```
#    -43210987654321
s1 = "This is a Game"
#     01234567890123

for i in range(len(s1)):
    print(s1[i], end=' ')

print()
```

```
T h i s   i s   a   G a m e
```

In [ ]:

TANAY KUMAR

BITS Pilani

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Run Code

```
print()
```

```
h    G e
```

In [5]:
```
# String is a sequence object
# Looping through a String without using its index

for x in s1:
    print(x, end=' ')

print()
```

```
T h i s   i s   a   G a m e
```

In [ ]:
```
i = -len(s1)
```

GAURAV ROY

BITS Pilani

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Run Code

```
-4 : G
-3 : a
-2 : m
-1 : e
```

Tuples

```
In [7]: aTuple = (1, 1.5, 'COVID-19', 'Python', True)
```

```
In [8]: type(aTuple)
Out[8]: tuple
```

```
In [ ]: len()
```

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```
-4 : G
-3 : a
-2 : m
-1 : e
```

Tuples

In [7]:
```
# 
aTuple = (1, 1.5, 'COVID-19', 'Python', True)
```

In [8]:
```
type(aTuple)
```

Out[8]:
```
tuple
```

In [ ]:
```
len()
```

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Run Code

Tuples

In [7]:
```
# Tuples is an immutable object
# List is a mutable object

aTuple = (1, 1.5, 'COVID-19', 'Python', True)
```

In [8]:
```
type(aTuple)
```

Out[8]:
```
tuple
```

In [ ]:
```
len()
```

YASH PRATAP SINGH

BITS Pilani

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```
# list is a mutable object

aTuple = (1, 1.5, 'COVID-19', 'Python', True)
```

In [8]:
```
type(aTuple)
```
Out[8]:
```
tuple
```

In [9]:
```
len(aTuple)
```
Out[9]:
```
5
```

In [10]:
```
aTuple[2]
```
Out[10]:
```
'COVID-19'
```

In [ ]:

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Run Code

```
    i += 1

print()
```

```
-14 : T
-13 : h
-12 : i
-11 : s
-10 :
-9 : i
-8 : s
-7 :
-6 : a
-5 :
-4 : G
-3 : a
-2 : m
-1 : e
```

Tuples

In [7]: # Tuples is an immutable object

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Run Code

```
In [9]: len(aTuple)
Out[9]: 5

In [10]: aTuple[2]
Out[10]: 'COVID-19'

In [11]: aTuple[-3]
Out[11]: 'COVID-19'

In [12]: type(aTuple[-1])
Out[12]: bool

In [ ]:
```

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Run Code

```
Out[10]: 'COVID-19'

In [11]: aTuple[-3]

Out[11]: 'COVID-19'

In [12]: type(aTuple[-1])

Out[12]: bool

In [13]: #Tuple slicing
         aTuple[0:3] #0,1,2

Out[13]: (1, 1.5, 'COVID-19')

In [ ]:
```

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Run Code

```
Out[11]: 'COVID-19'

In [12]: type(aTuple[-1])

Out[12]: bool

In [13]: #Tuple slicing
         aTuple[0:3] #0,1,2

Out[13]: (1, 1.5, 'COVID-19')

In [14]: aTuple[3:] #Skip end number, it defaults to end the tuple

Out[14]: ('Python', True)

In [ ]:
```

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Run Code

Out[12]: bool

In [13]:
```
#Tuple slicing
aTuple[0:3] #0,1,2
```

Out[13]: (1, 1.5, 'COVID-19')

In [14]:
```
aTuple[3:] #Skip end number, it defaults to end the tuple
```

Out[14]: ('Python', True)

In [15]:
```
aTuple[:2] #Skip start number, it defaults to 0
```

Out[15]: (1, 1.5)

In [ ]:
```
# Joining tuples
```

CH SALAJ

BITS Pilani

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Run Code

Out[12]: bool

In [13]:
```
#Tuple slicing
aTuple[0:3] #0,1,2
```

Out[13]: (1, 1.5, 'COVID-19')

In [14]:
```
aTuple[3:] #Skip end number, it defaults to end the tuple
```

Out[14]: ('Python', True)

In [15]:
```
aTuple[:2] #Skip start number, it defaults to 0
```

Out[15]: (1, 1.5)

In [ ]:
```
# Joining tuples
t1 = ('a', 'b', 3, 'd')
t2 =
```

PRASHANT LAKHANPAL

BITS Pilani

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Run Code

Out[12]: bool

In [13]:
```
#Tuple slicing
aTuple[0:3] #0,1,2
```

Out[13]: (1, 1.5, 'COVID-19')

In [14]:
```
aTuple[3:] #Skip end number, it defaults to end the tuple
```

Out[14]: ('Python', True)

In [15]:
```
aTuple[:2] #Skip start number, it defaults to 0
```

Out[15]: (1, 1.5)

In [ ]:
```
# Joining tuples
t1 = ('a', 'b', 3, 'd')
t2 = (5, 6)
```

SAI SATISH BABU N

BITS Pilani

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Run Code

In [15]: atuple[:2] #skip start number, it defaults to 0

Out[15]: (1, 1.5)

In [16]:
```
# Joining tuples
t1 = ('a', 'b', 3, 'd')
t2 = (5, 6)

t1 + t2
```

Out[16]: ('a', 'b', 3, 'd', 5, 6)

In [17]:
```
t3 = ('a', 2)
t3 * 3 # Repetition operator
```

Out[17]: ('a', 2, 'a', 2, 'a', 2)

In [ ]:

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Run Code

In [15]: a[:2] #skip start number, it defaults to 0

Out[15]: (1, 1.5)

In [16]:
```
# Joining tuples
t1 = ('a', 'b', 3, 'd')
t2 = (5, 6)

t1 + t2
```

Out[16]: ('a', 'b', 3, 'd', 5, 6)

In [17]:
```
t3 = ('a', 2)
t3 * 3 # Repetition operator
```

Out[17]: ('a', 2, 'a', 2, 'a', 2)

In [ ]:

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Run Code

```
Out[16]: ('a', 'b', 3, 'd', 5, 6)

In [17]: t3 = ('a', 2)
         t3 * 3 # Repetition operator

Out[17]: ('a', 2, 'a', 2, 'a', 2)

In [18]: t1

Out[18]: ('a', 'b', 3, 'd')

In [19]: t1[2] = 36

---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-19-7b586fb93c31> in <module>
----> 1 t1[2] = 36

TypeError: 'tuple' object does not support item assignment

In [ ]:
```

SMITA DHAVALKUMAR MEHTA

BITS Pilani

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Run Code

```
Out[18]: ('a', 'b', 3, 'd')

In [19]: t1[2] = 36

---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-19-7b586fb93c31> in <module>
----> 1 t1[2] = 36

TypeError: 'tuple' object does not support item assignment

In [20]: aTuple

Out[20]: (1, 1.5, 'COVID-19', 'Python', True)

In [ ]: for i range(len(aTuple)):
```

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Run Code

```
TypeError                                 Traceback (most recent call last)
<ipython-input-19-7b586fb93c31> in <module>
----> 1 t1[2] = 36

TypeError: 'tuple' object does not support item assignment
```

In [20]:
```
aTuple
```

Out[20]:
```
(1, 1.5, 'COVID-19', 'Python', True)
```

In [21]:
```
for i range(len(aTuple)):
    print(aTuple[i])
```

```
  File "<ipython-input-21-68a1cd186438>", line 1
    for i range(len(aTuple)):

SyntaxError: invalid syntax
```

In [ ]:

BITS Pilani

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```
TypeError                                 Traceback (most recent call last)
<ipython-input-19-7b586fb93c31> in <module>
----> 1 t1[2] = 36

TypeError: 'tuple' object does not support item assignment
```

In [20]:
```
aTuple
```

Out[20]:
```
(1, 1.5, 'COVID-19', 'Python', True)
```

In [22]:
```
for i in range(len(aTuple)):
    print(aTuple[i])
```

```
1
1.5
COVID-19
Python
True
```

In [ ]:

GEETHA V
is missing
impartus

BITS Pilani

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Run Code

Out[20]: (1, 1.5, 'COVID-19', 'Python', True)

In [22]:
```
for i in range(len(aTuple)):
    print(aTuple[i])
```

```
1
1.5
COVID-19
Python
True
```

In [23]:
```
for item in aTuple:
    print(item)
```

```
1
1.5
COVID-19
Python
True
```

In [ ]:

A RAMAKRISHNA

BITS Pilani

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Run | Code

```
True
```

In [25]:
```
for x in aTuple:
    print(x)
```

```
1
1.5
COVID-19
Python
True
```

In [*]:
```
t5 = (1, 1.5, "Java", [4,8,2], True)
t5
```

In [ ]:

RAJESH KUMAR
any way to stop notofications

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Run Code

```
1
1.5
COVID-19
Python
True
```

In [26]:
```
t5 = (1, 1.5, "Java", [4,8,2], True)
t5
```

Out[26]:
```
(1, 1.5, 'Java', [4, 8, 2], True)
```

In [27]:
```
id(t5)
```

Out[27]:
```
2072081577592
```

In [ ]:

AVINASH KUMAR SINGH

BITS Pilani

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Run Code

In [27]:
```
id(t5)
```

Out[27]:
```
2072081577592
```

In [28]:
```
t5[2] = "Python"
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-28-c1e4082b7d35> in <module>
----> 1 t5[2] = "Python"

TypeError: 'tuple' object does not support item assignment
```

In [ ]:
```
#t5 = (1, 1.5, "Java", [4,8,2], True)
t5[-2]
```

BITS Pilani

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Run Code

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-28-c1e4082b7d35> in <module>
----> 1 t5[2] = "Python"

TypeError: 'tuple' object does not support item assignment
```

In [29]:
```
#t5 = (1, 1.5, "Java", [4,8,2], True)

t5[-2][1] = "Python"
```

In [30]:
```
t5
```

Out[30]:
```
(1, 1.5, 'Java', [4, 'Python', 2], True)
```

In [ ]:

BITS Pilani

BITS Pilani

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Run Code

```
In [ ]:
```

SUDHARMA KAMALAKAR POTEY

BITS Pilani

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Run Code

Mutable objects - Lists

```
In [ ]:
```

BITS Pilani

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```
True Python 7.5 12.5 3 2.3
```

In [6]:
```
tupA = tuple(listA)
tupA
```

Out[6]:
```
(2.3, 3, 12.5, 7.5, 'Python', True)
```

List Comprehension

In [7]:
```
listB = [x for x in range(10)]

listB
```

Out[7]:
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [ ]:
```
listC = []
```

ARINDAM CHAKRABORTY

BITS Pilani

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Run Code

```
True Python 7.5 12.5 3 2.3
```

In [6]:
```
tupA = tuple(listA)
tupA
```

Out[6]:
```
(2.3, 3, 12.5, 7.5, 'Python', True)
```

List Comprehension

In [7]:
```
listB = [x for x in range(10)]

listB
```

Out[7]:
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [ ]:
```
listC = []
for x in range(10):
    listC.append(x)

listC
```

CH BALAJI

BITS Pilani

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List Comprehension

In [7]:
```
listB = [x for x in range(10)]

listB
```

Out[7]:
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [8]:
```
listC = []
for x in range(10):
    listC.append(x)

listC
```

Out[8]:
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [ ]:

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Run Code

List Comprehension

In [7]:
```
listB = [x for x in range(10)]

listB
```

Out[7]:
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [8]:
```
listC = []
for x in range(10):
    listC.append(x)

listC
```

Out[8]:
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [ ]:

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Run Code

List Comprehension

In [7]:
```
listB = [x for x in range(10)]

listB
```

Out[7]:
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [8]:
```
listC = []
for x in range(10):
    listC.append(x)

listC
```

Out[8]:
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [ ]:

SANJAY TRIVENI VISHWAKARMA

BITS Pilani

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```
listB
```

Out[7]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

In [8]:
```
listC = []
for x in range(10):
    listC.append(x)

listC
```

Out[8]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

In [ ]:
```
listD = [x*2 for x in range(5)]

listD
```

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Run Code

In [8]:
```
listC = []
for x in range(10):
    listC.append(x)

listC
```

Out[8]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

In [9]:
```
listD = [x*2 for x in range(5)] # 0,1,2,3,4

listD
```

Out[9]: [0, 2, 4, 6, 8]

In [ ]:
```
listE = [1/x for x in range(2,10)]
```

ARVIND KUMAR SHARMA

BITS Pilani

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Run Code

In [10]:
```
listE = [1/x for x in range(2,10)] #2,3,...,9

listE
```

Out[10]:
```
[0.5,
 0.3333333333333333,
 0.25,
 0.2,
 0.16666666666666666,
 0.14285714285714285,
 0.125,
 0.1111111111111111]
```

In [13]:
```
listB
```

Out[13]:
```
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```

In [ ]:

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Run Code

In [14]:
```
listF = [x/4 for x in listB]

listF
```

Out[14]:
```
[0.0, 0.25, 0.5, 0.75, 1.0, 1.25, 1.5, 1.75, 2.0, 2.25]
```

In [15]:
```
listG = [x for x in listF if 0.5 <= x <= 1.25]

listG
```

Out[15]:
```
[0.5, 0.75, 1.0, 1.25]
```

In [ ]:
```
listH = []
for x in listF:
    if (0.5 <= x <= 1.25):
        listH.append(x)

print(listH)
```

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Run Code

In [15]:
```
listG = [x for x in listF if 0.5 <= x <= 1.25]

listG
```

Out[15]:
```
[0.5, 0.75, 1.0, 1.25]
```

In [16]:
```
listH = []
for x in listF:
    if (0.5 <= x <= 1.25):
        listH.append(x)

print(listH)
```

```
[0.5, 0.75, 1.0, 1.25]
```

In [ ]:

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Run Code

In [16]:
```
listH = []
for x in listF:
    if (0.5 <= x <= 1.25):
        listH.append(x)

print(listH)
```

```
[0.5, 0.75, 1.0, 1.25]
```

In [ ]:
```
# Using nested loop to create a list
listI = []

for x in range(2,5): #2,3,4
    for y in range(1,4): #1,2,3
```

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Run Code

In [16]:
```
listH = []
for x in listF:
    if (0.5 <= x <= 1.25):
        listH.append(x)

print(listH)
```

```
[0.5, 0.75, 1.0, 1.25]
```

In [ ]:
```
# Using nested loop to create a list



listI = []

for x in range(2,5): #2,3,4
    for y in range(1,4): #1,2,3

        listI.append(x+y)

print(listI)
```

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Run Code

In [16]:
```
listH = []
for x in listF:
    if (0.5 <= x <= 1.25):
        listH.append(x)

print(listH)
```

```
[0.5, 0.75, 1.0, 1.25]
```

In [ ]:
```
# Using nested loop to create a list
###


listI = []

for x in range(2,5): #2,3,4
    for y in range(1,4): #1,2,3

        listI.append(x+y)

print(listI)
```

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```
listK = [i + j for i in a for j in b]

listK
```

Out[19]: ['ax', 'ay', 'az', 'bx', 'by', 'bz', 'cx', 'cy', 'cz']

In [20]:
```
listL = []

for i in a:
    for j in b:
        listL.append(i+j)

print(listL)
```

```
['ax', 'ay', 'az', 'bx', 'by', 'bz', 'cx', 'cy', 'cz']
```

In [ ]:

SACHIN PANDEY

BITS Pilani

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Run Code

Out[18]: [3, 4, 5, 4, 5, 6, 5, 6, 7]

In [19]:
```
a = ['a', 'b', 'c']
b = ['x', 'y', 'z']

listK = [i + j for i in a for j in b]

listK
```

Out[19]: ['ax', 'ay', 'az', 'bx', 'by', 'bz', 'cx', 'cy', 'cz']

In [20]:
```
listL = []

for i in a:
    for j in b:
        listL.append(i+j)

print(listL)
```

```
['ax', 'ay', 'az', 'bx', 'by', 'bz', 'cx', 'cy', 'cz']
```

In [ ]:

SACHIN PANDEY

BITS Pilani

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Run Code

Mutable objects - Lists

In [1]:
```
listA = [2.3, 3, 12.5, 7.5, "Python", True]
```

In [2]:
```
for i in range(len(listA)):
    print(listA[i], end=' ')
print()
```

```
2.3 3 12.5 7.5 Python True
```

In [3]:
```
for i in range(-1, -len(listA)-1, -1):
    print(listA[i], end=' ')

print()
```

```
True Python 7.5 12.5 3 2.3
```

In [6]:
```
tupA = tuple(listA)
tupA
```

G ABHISHAK KUMAR
you audible
Inquiries

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Run Code

```
, 'ay', 'az', 'bx', 'by', 'bz', 'cx', 'cy', 'cz']
```

```
= []

in a:
or j in b:
    listL.append(i+j)

(listL)
```

```
, 'ay', 'az', 'bx', 'by', 'bz', 'cx', 'cy', 'cz']
```

TANAY KUMAR

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SARAVANAN T

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Run Code

Sets - Mutable Data Structure ¶

In [ ]:
```
# Creating an empty set
```

VIVEK CHOUDHURY

sir , can you please brief about lambda function, map function and filter etc

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Run Code

Sets - Mutable Data Structure ¶

In [ ]:
```
# Creating an empty set

s1 = set()
```

SUDHARMA KAMALAKAR POTDY

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Sets - Mutable Data Structure ¶

In [1]:
```
# Creating an empty set

s1 = set()
print(s1)
```

```
set()
```

In [ ]:

SHARAD KUMAR DROLIA

BITS Pilani

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Run Code

Sets - Mutable Data Structure ¶

In [1]:
```
# Creating an empty set

s1 = set()
print(s1)
```

```
set()
```

In [ ]:
```
# Creating a set with default values
s2 = {1, 6, 2.25, 'A', 'Python', True}
```

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Run Code

Sets - Mutable Data Structure

In [1]:
```
# Creating an empty set

# Sets do n

s1 = set()
print(s1)
```

```
set()
```

In [4]:
```
# Creating a set with default values
s2 = {1, 6, 2.25, 'A', 'Python', True}

print(s2)
s2
```

```
{1, 2.25, 6, 'Python', 'A'}
```

Out[4]:
```
{1, 2.25, 6, 'A', 'Python'}
```

SOUMYA RANJAN PANDA
True and 1 are same

BITS Pilani

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Run Code

Sets - Mutable Data Structure

In [1]:
```
# Creating an empty set

# Sets do not support indexing
# Sets

s1 = set()
print(s1)
```

```
set()
```

In [4]:
```
# Creating a set with default values
s2 = {1, 6, 2.25, 'A', 'Python', True}

print(s2)
s2
```

```
{1, 2.25, 6, 'Python', 'A'}
```

Out[4]:
```
{1, 2.25, 6, 'A', 'Python'}
```

MOHD SAIFULLAH ANSARI

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Run Code

Sets - Mutable Data Structure

In [1]:
```
# Creating an empty set

# Sets do not support indexing
# Sets cannot have duplicates
# Sets can have objects of various types
# Sets are multd

s1 = set()
print(s1)
```

```
set()
```

In [4]:
```
# Creating a set with default values
s2 = {1, 6, 2.25, 'A', 'Python', True}

print(s2)
s2
```

```
{1, 2.25, 6, 'Python', 'A'}
```

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Run Code

Sets - Mutable Data Structure

In [1]:
```
# Creating an empty set

# Sets do not support indexing

# Sets cannot have duplicates
# Sets can have objects of various types
# Sets are mutable objects

s1 = set()
print(s1)
```

```
set()
```

In [4]:
```
# Creating a set with default values
s2 = {1, 6, 2.25, 'A', 'Python', True}

print(s2)
s2
```

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Run Code

In [1]:
```
# Creating an empty set

# Sets do not support indexing
# Set elements do not have any order
# Sets cannot have duplicates
# Sets can have objects of various types
# Sets are mutable objects

s1 = set()
print(s1)

set()
```

In [4]:
```
# Creating a set with default values
s2 = {1, 6, 2.25, 'A', 'Python', True}

print(s2)
s2
```

```
{1, 2.25, 6, 'Python', 'A'}
```

Out[4]:
```
{1, 2.25, 6, 'A', 'Python'}
```

In [3]:
```
s3 = {1,2,2, 'a' , 5.46, 'a', 1,25}
```

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Run Code

```
s3
```

Out[3]: {1, 2, 25, 5.46, 'a'}

In [5]:
```
# Number of elements
len(s3)
```

Out[5]: 5

In [6]:
```
t4 = ('Ahmedabad', 'Bengaluru', 'Chennai', 'Delhi')

s4 = set(t4)
s4
```

Out[6]: {'Ahmedabad', 'Bengaluru', 'Chennai', 'Delhi'}

In [ ]:

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Run Code

```
s4 = set(l4)
s4
```

Out[6]: {'Ahmedabad', 'Bengaluru', 'Chennai', 'Delhi'}

In [7]:
```
l5 = [1,1,4,5,4,5,6,9]
s5 = set(l5)
s5
```

Out[7]: {1, 4, 5, 6, 9}

In [8]:
```
s6 = set("Mississippi")

print(s6)
```

```
{'p', 'i', 'M', 's'}
```

In [ ]:

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Run Code

```
s4 = set(l4)
s4
```

Out[6]: ('Ahmedabad', 'Bengaluru', 'Chennai', 'Delhi'}

In [7]:
```
l5 = [1,1,4,5,4,5,6,9]
s5 = set(l5)
s5
```

Out[7]: {1, 4, 5, 6, 9}

In [8]:
```
s6 = set("Mississippi")

print(s6)
```

```
{'p', 'i', 'M', 's'}
```

In [ ]:
```
s7 = {1, 6, 2.25, 4, 5.46}
```

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Run Code

In [7]:
```
l5 = [1,1,4,5,4,5,6,9]
s5 = set(l5)
s5
```

Out[7]: {1, 4, 5, 6, 9}

In [8]:
```
s6 = set("Mississippi")

print(s6)
```

```
{'p', 'i', 'M', 's'}
```

In [9]:
```
s7 = {1, 6, 2.25, 4, 5.46}
print("Minimum of s7 = ", min(s7))
```

```
Minimum of s7 =  1
```

In [ ]:
```
print()
```

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Run Code

```
{'p', 'i', 'M', 's'}
```

In [9]:
```
s7 = {1, 6, 2.25, 4, 5.46}
print("Minimum of s7 = ", min(s7))
```

```
Minimum of s7 =  1
```

In [10]:
```
print("Sum of s7 = ", sum(s7))
```

```
Sum of s7 =  18.71
```

In [11]:
```
print(s7[3])
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-11-eaf121e847a8> in <module>
----> 1 print(s7[3])

TypeError: 'set' object does not support indexing
```

In [ ]:

SHUBHAM

BITS Pilani

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Run Code

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-11-eaf121e847a8> in <module>
----> 1 print(s7[3])

TypeError: 'set' object does not support indexing
```

In [12]:
```
a = [1,2,3]
b = [3,4,5]

c = a + b
print(c)
```

```
[1, 2, 3, 3, 4, 5]
```

In [ ]:

MALLIKARJUN KONDURI

BITS Pilani

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Run Code

In [12]:
```
a = [1,2,3]
b = [3,4,5]

c = a + b
print(c)
```

```
[1, 2, 3, 3, 4, 5]
```

In [13]:
```
setA = set(a)
setB = set(b)

setC = setA + setB
setC
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-13-c34056ece771> in <module>
      2 setB = set(b)
      3
----> 4 setC = setA + setB
      5 setC

TypeError: unsupported operand type(s) for +: 'set' and 'set'
```

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Run Code

```
c = a + b
print(c)
```

```
[1, 2, 3, 3, 4, 5]
```

In [13]:
```
setA = set(a)
setB = set(b)

setC = setA + setB #
setC
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-13-c34056ece771> in <module>
      2 setB = set(b)
      3
----> 4 setC = setA + setB
      5 setC

TypeError: unsupported operand type(s) for +: 'set' and 'set'
```

In [ ]:

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Run Code

```
setC = setA + setB # + not supported
setC
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-13-c34056ece771> in <module>
      2 setB = set(b)
      3
----> 4 setC = setA + setB
      5 setC

TypeError: unsupported operand type(s) for +: 'set' and 'set'
```

In [ ]:

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Run Code

```
setC
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-13-c34056ece771> in <module>
      2 setB = set(b)
      3
----> 4 setC = setA + setB
      5 setC

TypeError: unsupported operand type(s) for +: 'set' and 'set'
```

In [14]:
```
s7
```

Out[14]:
```
{1, 2.25, 4, 5.46, 6}
```

In [ ]:

NITESH M SORAGAVI

BITS Pilani

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Run Code

```
setC
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-13-c34056ece771> in <module>
      2 setB = set(b)
      3
----> 4 setC = setA + setB
      5 setC

TypeError: unsupported operand type(s) for +: 'set' and 'set'
```

In [14]:
```
s7
```

Out[14]:
```
{1, 2.25, 4, 5.46, 6}
```

In [ ]:
```
# Adding elements to a set
```

SHUBHAM

BITS Pilani

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Run Code

```
----> 1 s7.remove('c')

KeyError: 'c'
```

In [19]:
```
if 'c' in s7:
    s7.remove('c')
```

In [20]:
```
print(4 in s7) # in and not in operators result in boolean outcome
print(1 not in s7)
```

```
True
False
```

In [ ]:
```
try:
    s
```

VISHAL GUPTA

BITS Pilani

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```
----> 1 s7.remove('c')

KeyError: 'c'
```

In [19]:
```
if 'c' in s7:
    s7.remove('c')
```

In [20]:
```
print(4 in s7) # in and not in operators result in boolean outcome
print(1 not in s7)
```

```
True
False
```

In [ ]:
```
try:
    s7.remove('c')

except:
    print("")
```

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Run Code

In [20]:
```
print(4 in s7) # in and not in operators result in boolean outcome
print(1 not in s7)
```

```
True
False
```

In [21]:
```
try:
    s7.remove('c')

except:
    print("Something went wrong")

s7
```

```
Something went wrong
```

Out[21]:
```
{1, 2.25, 4, 6, 'a', 'b'}
```

In [ ]:

SURESH BABASAHEB NIMBALKAR

BITS Pilani

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Run Code

```
True
False
```

In [21]:
```
try:
    s7.remove('c')

except:
    print("Something went wrong")

s7
```

```
Something went wrong
```

Out[21]:
```
{1, 2.25, 4, 6, 'a', 'b'}
```

In [ ]:
```
s8 = {1,2,3}
s9 = {2,3,1}

print(s8 == s9)
```

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Run Code

```
except:
    print("Something went wrong")

s7
```

```
Something went wrong
```

Out[21]:
```
{1, 2.25, 4, 6, 'a', 'b'}
```

In [23]:
```
# Comparing elements
s8 = {1,2,3}
s9 = {2,3,1}

print(s8 == s9) # True because order doesn't matter

print(id(s8) == id(s9))
```

```
True
False
```

In [ ]:

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Run Code

```
{1, 2, 3}
```

In [25]:
```
s11 = {2,8,3,1}

s11.discard(2)
print(s11)
```

```
{8, 1, 3}
```

In [26]:
```
s11.discard(9)
print(s11)
```

```
{8, 1, 3}
```

In [ ]:

HIMANSHU KUMAR SRIVASTAVA
i think this is related to order, since set does not guarantee order
Imparts

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Run Code

```
In [25]: s11 = {2,8,3,1}

         s11.discard(2)
         print(s11)

         {8, 1, 3}

In [26]: s11.discard(9)
         print(s11)

         {8, 1, 3}

In [27]: s12 = {9, 2, 5, 4, 1, 7}
         s12

Out[27]: {1, 2, 4, 5, 7, 9}

In [ ]: sorted(s)
```

PRASHANT LAKHANPAL

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Run Code

```
{8, 1, 3}
```

In [26]:
```
s11.discard(9)
print(s11)
```

```
{8, 1, 3}
```

In [27]:
```
s12 = {9, 2, 5, 4, 1, 7}
s12
```

Out[27]:
```
{1, 2, 4, 5, 7, 9}
```

In [28]:
```
sorted(s12)
```

Out[28]:
```
[1, 2, 4, 5, 7, 9]
```

In [ ]:

BADAL KUMAR

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Run Code

```
{8, 1, 3}
```

In [26]:
```
s11.discard(9)
print(s11)
```

```
{8, 1, 3}
```

In [27]:
```
s12 = {9, 2, 5, 4, 1, 7}
s12
```

Out[27]:
```
{1, 2, 4, 5, 7, 9}
```

In [28]:
```
sorted(s12)
```

Out[28]:
```
[1, 2, 4, 5, 7, 9]
```

In [ ]:

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Run Code

```
{8, 1, 3}
```

In [27]:
```
s12 = {9, 2, 5, 4, 1, 7}
s12
```

Out[27]:
```
{1, 2, 4, 5, 7, 9}
```

In [28]:
```
sorted(s12)
```

Out[28]:
```
[1, 2, 4, 5, 7, 9]
```

Set Operations

In [ ]:

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Run Code

Out[28]: [1, 2, 4, 5, 7, 9]

Set Operations

In [29]:
```
s1 = {1,2,3}
s2 = {8,1,6,2,3,7}

print(s1.issubset(s2)) #True
print(s2.issuperset(s1)) #True
```

```
True
True
```

In [ ]:
```
# Union of sets
s1 = {1,2,3}
s2 = {3,5,8}
s
```

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Run Code

```
s2 = {8,1,6,2,3,7}

print(s1.issubset(s2)) #True
print(s2.issuperset(s1)) #True
```

```
True
True
```

In [30]:
```
# Union of sets
s1 = {1,2,3}
s2 = {3,5,8}
s3 = {7,4,5}

print(s1.union(s5))
```

```
{1, 'Ahmedabad', 4, 5, 'Delhi', 6, 9, 'Bengaluru', 'Chennai'}
```

In [ ]:

NISHANT SRIVASTAVA

BITS Pilani

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Run Code

```
{1, 2, 3, 5, 8}
{1, 2, 3, 4, 5, 7, 8}
```

In [33]:
```
print(s1 | s2)
print(s1 | s2 | s3)
```

```
{1, 2, 3, 5, 8}
{1, 2, 3, 4, 5, 7, 8}
```

In [35]:
```
s4 = {1,2,3,4,5}
s5 = {3,5,8,9,12}

print(s4.intersection(s5))
print(s4 & s5)
```

```
{3, 5}
{3, 5}
```

In [ ]:

BITS Pilani

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Run Code

```
{1, 2, 3, 5, 8}
{1, 2, 3, 4, 5, 7, 8}
```

In [33]:
```
print(s1 | s2)
print(s1 | s2 | s3)
```

```
{1, 2, 3, 5, 8}
{1, 2, 3, 4, 5, 7, 8}
```

In [35]:
```
s4 = {1,2,3,4,5}
s5 = {3,5,8,9,12}

print(s4.intersection(s5))
print(s4 & s5)
```

```
{3, 5}
{3, 5}
```

In [ ]:
```
s4 = {1,2,3,4,5}
s5 = {3,5,8,9,12}
```

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Run Code

In [35]:
```
s4 = {1,2,3,4,5}
s5 = {3,5,8,9,12}

print(s4.intersection(s5))
print(s4 & s5)
```

```
{3, 5}
{3, 5}
```

In [36]:
```
# s4 = {1,2,3,4,5}
# s5 = {3,5,8,9,12}

print(s8.difference(s7))
```

```
{2, 3}
```

In [ ]:

SHUBHAM
if you want common items, you can opt of List
Impartus

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Run Code

In [35]:
```
s4 = {1,2,3,4,5}
s5 = {3,5,8,9,12}

print(s4.intersection(s5))
print(s4 & s5)
```

```
{3, 5}
{3, 5}
```

In [37]:
```
# s4 = {1,2,3,4,5}
# s5 = {3,5,8,9,12}

print(s5.difference(s4))
```

```
{8, 9, 12}
```

In [ ]:

YASH PRATAP SINGH

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Run Code

In [35]:
```
s4 = {1,2,3,4,5}
s5 = {3,5,8,9,12}

print(s4.intersection(s5))
print(s4 & s5)
```

```
{3, 5}
{3, 5}
```

In [37]:
```
# s4 = {1,2,3,4,5}
# s5 = {3,5,8,9,12}

# Elements t

print(s5.difference(s4))
```

```
{8, 9, 12}
```

In [ ]:

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Run Code

In [35]:
```
s4 = {1,2,3,4,5}
s5 = {3,5,8,9,12}

print(s4.intersection(s5))
print(s4 & s5)
```

```
{3, 5}
{3, 5}
```

In [38]:
```
# s4 = {1,2,3,4,5}
# s5 = {3,5,8,9,12}

# Elements that are in s5, but not in s4

print(s5.difference(s4))
print(s5 - s4)
```

```
{8, 9, 12}
{8, 9, 12}
```

In [ ]:

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