Name	1562
Practical	2
Title	To create a basic database in python

Data Types in Python

```
In [1]: # declare a varible
        a = 20
        print(type(a))

        <class 'int'>
```

```
In [2]: b = 2.5
        print(type(b))

        <class 'float'>
```

```
In [3]: b = "abc"
        print(type(b))

        <class 'str'>
```

```
In [4]: d=2+3j
        print(type(d))

        <class 'complex'>
```

```
In [5]: e = 'c'
        print(type(e))

        <class 'str'>
```

```
In [6]: f=True
        print(type(f))

        <class 'bool'>
```

Collections in Python - List

```
In [7]: # create a list
        studentlist=['acc','xyz','pqr']
```

```
In [8]: #access elements frpm a list
        print(studentlist[0])

        acc
```

```
In [10]: # change the value - mutable
         studentlist[1]='saif'
         studentlist

Out[10]: ['acc', 'saif', 'pqr']
```

```
In [10]: # change the value - mutable
         studentlist[1]='saif'
         studentlist

Out[10]: ['acc', 'saif', 'pqr']
```

```
In [11]: # assign a value to 3
         studentlist[3]='vijay'
```

```
---------------------------------------------------------------------------
IndexError                                Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_15812/1511795209.py in <module>
      1 # assign a value to 3
----> 2 studentlist[3]='vijay'

IndexError: list assignment index out of range
```

```
In [12]: studentlist.append('vijay')
         studentlist

Out[12]: ['acc', 'saif', 'pqr', 'vijay']
```

```
In [13]: studentlist2=['a','101','123']
         studentlist2

Out[13]: ['a', '101', '123']
```

```
In [16]: studentlist2.remove('a')
         studentlist2
```

Out[16]: ['101', 'c', '123', 300]

```
In [18]: studentlist2.pop()
         studentlist2
```

Out[18]: ['101', 'c']

Traversal of List

```
In [19]: studentlist2.pop(1)
         studentlist2
```

Out[19]: ['101']

```
In [24]: for i in range(0,5,2):
             print(i)
```

```
0
2
4
```

```
In [25]: for i in range(5,-1,-1):
             print(i)
```

```
5
4
3
2
1
0
```

```
In [26]: sz=len(studentlist)
         for i in range(sz):
             print(i,'-',studentlist[i])
```

```
0 - acc
1 - saif
2 - pqr
3 - vijay
```

```
In [27]:  for n in studentlist:
              print(n)

          acc
          saif
          pqr
          vijay
```

```
In [29]:  # list slicing
          studentlist[0]
```

Out[29]: 'acc'

```
In [30]:  studentlist[0:2]
```

Out[30]: ['acc', 'saif']

```
In [31]:  studentlist[0:4:2]
```

Out[31]: ['acc', 'pqr']

```
In [32]:  studentlist2[0:4:2]
```

Out[32]: ['101']