```
In [4]: print("hello\nworld!")
```
```
hello
world!
```

print('Hello World')

```
In [11]: int(25//6)
Out[11]: 4

In [13]: float(25/6)
Out[13]: 4.166666666666667

In [14]: total_min=43+42+57

In [15]: total_hr=total_min/60

In [17]: total_hr
Out[17]: 2.3666666666666667

In [21]: Name=("Michael Jackson")

In [25]: Name[0]
Out[25]: 'M'

In [27]: Name[6]
Out[27]: 'l'

In [28]: Name[0:4]
Out[28]: 'Mich'

In [29]: Name[8:12]
Out[29]: 'Jack'

In [30]: Name[::2]
Out[30]: 'McalJcsn'

In [31]: Name[::3]
Out[31]: 'Mhlas'

In [32]: Name[0:5:2]
Out[32]: 'Mca'

In [35]: statement=Name+" is the best"

In [36]: statement
Out[36]: 'Michael Jackson is the best'
```

3*"michael jackson

```
In [37]: 3*Name
Out[37]: 'Michael JacksonMichael JacksonMichael Jackson'

In [39]: A="vaibhav pritmani"

In [41]: B=A.replace('vaibhav','janet')

In [42]: B
Out[42]: 'janet pritmani'

In [43]: Name.find('el')
Out[43]: 5

In [45]: Name.find('Jack')
Out[45]: 8

In [46]: A.find('mani')
Out[46]: 12

In [47]: X="0123456"

In [48]: X[::2]
Out[48]: '0246'

In [50]: X[::3]
Out[50]: '036'

In [51]: "0123456".find('1')
Out[51]: 1

In [52]: 3+2*2
Out[52]: 7

In [1]: Name='lizz'

In [2]: print(Name[0:2])
li

In [3]: var='0123456'

In [4]: print(var[::2])
0246

In [5]: '1'+'2'
Out[5]: '12'

In [6]: myvar='hello'

In [7]: myvar.upper()
Out[7]: 'HELLO'

In [1]: tuple=("disco",10,1.2)

In [2]: tuple
Out[2]: ('disco', 10, 1.2)

In [5]: tuple[0]:"disco"

In [6]: tuple[1]:10

In [7]: tuple[2]:1.2

In [8]: tuple
Out[8]: ('disco', 10, 1.2)

In [9]: tuple2=tuple+("hard rock",10)

In [10]: tuple
Out[10]: ('disco', 10, 1.2)

In [11]: tuple2
Out[11]: ('disco', 10, 1.2, 'hard rock', 10)

In [12]: tuple2[0:3]
Out[12]: ('disco', 10, 1.2)

In [13]: tuple2[3:5]
Out[13]: ('hard rock', 10)

In [18]: NT=(1,2,("pop","rock"),(3,4),("disco",(1,2)))

In [20]: NT[2][0]
Out[20]: 'pop'

In [21]: NT[2][1]
Out[21]: 'rock'

In [22]: NT[3][0]
Out[22]: 3

In [23]: NT[3][1]
Out[23]: 4

In [24]: NT[4][1]
Out[24]: (1, 2)

In [25]: NT[4][0]
Out[25]: 'disco'

In [26]: B=["a","b","c"]

In [27]: B[1:]
Out[27]: ['b', 'c']

In [28]: B[2:]
Out[28]: ['c']

In [29]: L=["michael jakson",10.1,1982]

In [30]: L[0]
Out[30]: 'michael jakson'

In [31]: L[1]
Out[31]: 10.1

In [32]: L[2]
Out[32]: 1982

In [33]: L.extend(["MJ",1])

In [34]: L
Out[34]: ['michael jakson', 10.1, 1982, 'MJ', 1]

In [35]: L[3:5]
Out[35]: ['MJ', 1]

In [36]: L.append(["MJ",1])

In [38]: L.append("A")

In [39]: L
Out[39]: ['michael jakson', 10.1, 1982, 'MJ', 1, ['MJ', 1], 'A']

In [40]: A=["disco",10,1.2]

In [41]: A[0]
Out[41]: 'disco'

In [42]: A[0]="hard rock"

In [43]: A
Out[43]: ['hard rock', 10, 1.2]

In [44]: del(A[0])

In [46]: A
Out[46]: [10, 1.2]

In [47]: A=["hard rock",10,1.2]

In [48]: "hard rock".split()
Out[48]: ['hard', 'rock']

In [49]: string="A,B,C,D"

In [50]: string="A,B,C,D".split(",")

In [51]: string
Out[51]: ['A', 'B', 'C', 'D']

In [52]: B=A

In [53]: B[0]
Out[53]: 'hard rock'

In [54]: A[0]="banana"

In [55]: B[0]
Out[55]: 'banana'

In [56]: B=A[:]

In [57]: B[2]
Out[57]: 1.2

In [58]: B[0]
Out[58]: 'banana'

In [59]: A[0]="sexy"

In [60]: B[0]
Out[60]: 'banana'
```

sets

```
In [1]: set={"pop","rock","soul","hard rock","rock","R&B","rock","disco"}

In [2]: set
Out[2]: {'R&B', 'disco', 'hard rock', 'pop', 'rock', 'soul'}

In [21]: list=["michael jackson","thriller","thriller",1982]

In [22]:
Out[22]: ['michael jackson', 'thriller', 'thriller', 1982]

In [ ]:

In [43]: album_set.set(list)

---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-43-31056aa11452> in <module>
----> 1 album_set.set(list)

NameError: name 'album_set' is not defined

In [30]: A={"Thriller","black in black","AC/DC"}

In [31]: A.add("NSYNS")

In [32]: A
Out[32]: {'AC/DC', 'NSYNS', 'Thriller', 'black in black'}

In [33]: A.remove("NSYNS")

In [34]: A
Out[34]: {'AC/DC', 'Thriller', 'black in black'}

In [35]: "AC/DC" in A
Out[35]: True

In [36]: "WHo" in A
Out[36]: False

In [37]: album_set_1={"AC/DC","Back in black","thriller"}

In [38]: album_set_2={"AC/DC","Back in black","the dark side of the moon"}

In [39]: album_set_3=album_set_1&album_set_2

In [40]: album_set_3
Out[40]: {'AC/DC', 'Back in black'}

In [42]: album_set_1.union(album_set_2)
Out[42]: {'AC/DC', 'Back in black', 'the dark side of the moon', 'thriller'}

In [44]: album_set_3.issubset(album_set_1)
Out[44]: True

In [45]: album_set_3.issubset(album_set_2)
Out[45]: True
```

practical questions

```
In [46]: S={'A','B','C'}

In [47]: U={'A','Z','C'}

In [48]: U.union(S)
Out[48]: {'A', 'B', 'C', 'Z'}
```

DICTIONARIES

```
In [1]: dic={"thriller":1982,"back in black":1980,"the dark side of the moon":1973,"the bodyguard":1
        992}

In [3]: dic["thriller"]
Out[3]: 1982

In [5]: dic["the dark side of the moon"]
Out[5]: 1973

In [7]: dic['GRADUATION']=2007

In [8]: dic
Out[8]: {'thriller': 1982,
         'back in black': 1980,
         'the dark side of the moon': 1973,
         'the bodyguard': 1992,
         'GRADUATION': 2007}

In [10]: del(dic["thriller"])

In [11]: dic
Out[11]: {'back in black': 1980,
          'the dark side of the moon': 1973,
          'the bodyguard': 1992,
          'GRADUATION': 2007}

In [12]: "the bodyguard"in dic
Out[12]: True

In [13]: "the isolation" in dic
Out[13]: False

In [14]: dic.keys()
Out[14]: dict_keys(['back in black', 'the dark side of the moon', 'the bodyguard', 'GRADUATION'])

In [16]: dic.values()
Out[16]: dict_values([1980, 1973, 1992, 2007])
```

Practice Question

```
In [18]: D={"a":0,"b":1,"c":2}

In [19]: D.values()
Out[19]: dict_values([0, 1, 2])

In [20]: D={"a":0,"b":1,"c":2}

In [21]: D["b"]
Out[21]: 1
```

Review Questions

```
In [22]: A=("a","b","c")

In [23]: A[0]
Out[23]: 'a'

In [24]: Dict={"A":1,"B":2,"C":[333],"D":(444),"E":5,"F":6}

In [25]: Dict
Out[25]: {'A': 1, 'B': 2, 'C': [333], 'D': 444, 'E': 5, 'F': 6}

In [26]: Dict["D"]
Out[26]: 444

In [ ]:
```