Python feature	Description	Line number
class	Using methods and attributes by creating objects	1 - 67
Initialization *__init__*	Initializ arguments to private\public attributes like constractor in cpp. Def __init__(self,a,b)	2
Public aributtes	Accesable all places *note: by default, it'll be public	3
Private aributes	Only accesable within the class. Making it is just writing __ befor the name	6
A method	Called function on other language, used to perform tasks when it's called. Def FunName():	15
List.insert()	elemet) this for adding new elements to ,EmptyList.Insert(index an empty list by telling it the index.	16
Private method	Only accesable within the class PrivateFun()___.self :Calling by	
An if statement	Used to compare two things, is it greater smaller..etc if it's right it'll do tasks if not will be skipped. *can be nasted if else, elif	30
If else	If CONDITION: Statement Else: statement	168
Uncapitalize a string	STRING.lower() #ABDULLAH to abdullah *built in python no need to make it	30
and	Used if two thing or more are the same or not.	65
array / List	Same as array in .A group of elements can be numbers string etc list = {unchangedable} ,[Name = [elements .++c	9
For loop	Useful when dealing with arrays. .A reputation statement For anyName in list:	23
Printing on screen	By just writing print("whateverYouWant") #spreating aributues by a coma like line 184 "d",x,""abc	106
Len(string)	Built in function to count how many letters in the string	166
object	You can make as much as you want of object and every one has it's own information	173
Constructors	ClassName(a,b,c) Passing for Initializtion	173
Taking input	input("optinal printing") taking input from the user :Synatx	173
New line and space	\t is space \n is new line	332

```python
class read:
    def __init__(self, name, number, email, numOfBooks):
        self.name = name
        self.email = email
        self.number = number
        self.__numOfBooks = numOfBooks
        self.__counter = 0   #for indexing
        self.books = []
        self.catg = []   #empty arrays/listes
        self.pages = []

    def getNumOfBooks(self):
        return self.__numOfBooks

    def addBooks(self, name, catg, pages):
            self.books.insert(self.__counter, name)
            self.catg.insert(self.__counter, catg)   #adding elements to the empty list
            self.pages.insert(self.__counter, pages)
            self.__counter += 1

    def getAllPages(self): #all pages an object read
        sum = 0
        for x in self.pages:
            sum += x
        return sum

    def countHistory(self):
        counter = 0
        for x in self.catg:
            if x.lower() == 'history':
                counter += 1
        return counter

    def countStory(self):
        counter = 0
        for x in self.catg:
            if x.lower() == 'story':
                counter += 1
        return counter

    def countScientist(self):
        counter = 0
        for x in self.catg:
            if x.lower() == 'scientist':
                counter += 1
        return counter

    def countReligious(self):
        counter = 0
        for x in self.catg:
            if x.lower() == 'religious':
                counter += 1
        return counter

    def countLiterature(self):
        counter = 0
        for x in self.catg:
            if x.lower() == 'literature':
                counter += 1
        return counter
```

```python
     def countOthers(self):
         counter = 0
         for x in self.catg:
             if x.lower() != 'history' and x.lower() != 'story' and x.lower() != 'scientist' and x.lower() != 'religious' and x.lower() != 'literature':
                 counter += 1
         return counter


def add_all(i1,i2,i3,i4,i5,i6,i7,i8,i9,i10): #can be used to add all everyones' pages also count everyones' catagories
    return i1+i2+i3+i4+i5+i6+i7+i8+i9+i10

def printMostBooks(name1, books1, name2, books2, name3, books3, name4, books4, name5, books5,
                   name6, books6, name7, books7, name8, books8, name9, books9, name10, books10):
    biggest = books1
    BIGGEST = name1

    if biggest < books2:
        biggest = books2
        BIGGEST = name2
    if biggest < books3:
        biggest = books3
        BIGGEST = name3
    if biggest < books4:
        biggest = books4
        BIGGEST = name4
    if biggest < books5:
        biggest = books5
        BIGGEST = name5
    if biggest < books6:
        biggest = books6
        BIGGEST = name6
    if biggest < books7:
        biggest = books7
        BIGGEST = name7
    if biggest < books8:
        biggest = books8
        BIGGEST = name8
    if biggest < books9:
        biggest = books9
        BIGGEST = name9
    if biggest < books10:
        biggest = books10
        BIGGEST = name10

    print("The one who read books the most is",BIGGEST,"by", biggest,"books.")
```

```python
108  def printMostCatg(history, story, scientist, religious, literature, other):
109      biggest = history
110      BIGGEST = 'history'
111
112      if biggest < story:
113          biggest = story
114          BIGGEST = 'story'
115      if biggest < scientist:
116          biggest = scientist
117          BIGGEST = 'scientist'
118      if biggest < religious:
119          biggest = religious
120          BIGGEST = 'religious'
121      if biggest < literature:
122          biggest = literature
123          BIGGEST = 'literature'
124      if biggest < other:
125          biggest = other
126          BIGGEST = 'other'
127      print("The most catagory was read is",BIGGEST,"by" , biggest,"books.")
128
129   def printMostPages(name1, pages1, name2, pages2, name3, pages3, name4, pages4, name5, pages5,
130               name6, pages6, name7, pages7, name8, pages8, name9, pages9, name10, pages10):
131      biggest = pages1
132      BIGGEST = name1
133
134      if biggest < pages2:
135          biggest = pages2
136          BIGGEST = name2
137      if biggest < pages3:
138          biggest = pages3
139          BIGGEST = name3
140      if biggest < pages4:
141          biggest = pages4
142          BIGGEST = name4
143      if biggest < pages5:
144          biggest = pages5
145          BIGGEST = name5
146      if biggest < pages6:
147          biggest = pages6
148          BIGGEST = name6
149      if biggest < pages7:
150          biggest = pages7
151          BIGGEST = name7
152      if biggest < pages8:
153          biggest = pages8
154          BIGGEST = name8
155      if biggest < pages9:
156          biggest = pages9
157          BIGGEST = name9
158      if biggest < pages10:
159          biggest = pages10
160          BIGGEST = name10
161
162      print("The one who read pages the most is",BIGGEST,"by", biggest,"pages.")
163
164  def printSQ(string, num): # printing a schedule
165
166      if len(string) < 7:          # counting how many letters to mange blanks ( \t )
167          print(string,"\t\t", num)
168      else:
169          print(string,"\t", num)
170
```

```
171     #Taking input from the user
172     '''
173     obj1 = read(input('The name? '),input('Phone number? '), input('Email? '), int(input('Number of books he read? ')))
174     for x in range(obj1.getNumOfBooks()):
175         obj1.addBooks(input('Book title? '), input('Its catagory? '), int(input('Its pages? ')))
176
177     obj2 = read(input('The name? '),input('Phone number? '), input('Email? '), int(input('Number of books he read? ')))
178     for x in range(obj2.getNumOfBooks()):
179         obj2.addBooks(input('Book title? '), input('Its catagory? '), int(input('Its pages? ')))
180
181     obj3 = read(input('The name? '),input('Phone number? '), input('Email? '), int(input('Number of books he read? ')))
182     for x in range(obj3.getNumOfBooks()):
183         obj3.addBooks(input('Book title? '), input('Its catagory? '), int(input('Its pages? ')))
184
185     obj4 = read(input('The name? '),input('Phone number? '), input('Email? '), int(input('Number of books he read? ')))
186     for x in range(obj4.getNumOfBooks()):
187         obj4.addBooks(input('Book title? '), input('Its catagory? '), int(input('Its pages? ')))
188
189     obj5 = read(input('The name? '),input('Phone number? '), input('Email? '), int(input('Number of books he read? ')))
190     for x in range(obj5.getNumOfBooks()):
191         obj5.addBooks(input('Book title? '), input('Its catagory? '), int(input('Its pages? ')))
192
193     obj6 = read(input('The name? '),input('Phone number? '), input('Email? '), int(input('Number of books he read? ')))
194     for x in range(obj6.getNumOfBooks()):
195         obj6.addBooks(input('Book title? '), input('Its catagory? '), int(input('Its pages? ')))
196
197     obj7 = read(input('The name? '),input('Phone number? '), input('Email? '), int(input('Number of books he read? ')))
198     for x in range(obj7.getNumOfBooks()):
199         obj7.addBooks(input('Book title? '), input('Its catagory? '), int(input('Its pages? ')))
200
201     obj8 = read(input('The name? '),input('Phone number? '), input('Email? '), int(input('Number of books he read? ')))
202     for x in range(obj8.getNumOfBooks()):
203         obj8.addBooks(input('Book title? '), input('Its catagory? '), int(input('Its pages? ')))
204
205     obj9 = read(input('The name? '),input('Phone number? '), input('Email? '), int(input('Number of books he read? ')))
206     for x in range(obj9.getNumOfBooks()):
207         obj9.addBooks(input('Book title? '), input('Its catagory? '), int(input('Its pages? ')))
208
209     obj10 = read(input('The name? '),input('Phone number? '), input('Email? '), int(input('Number of books he read? ')))
210     for x in range(obj10.getNumOfBooks()):
211         obj10.addBooks(input('Book title? '), input('Its catagory? '), int(input('Its pages? ')))
212     '''
213
```

```python
214        # this is just for easily test the program
215        obj1 = read('Abdullah',966,'4b@w.cn',5)
216        obj1.addBooks('gg','history',100)
217        obj1.addBooks('gg','history',100)
218        obj1.addBooks('gg','history',100)
219        obj1.addBooks('gg','history',100)
220        obj1.addBooks('gg','history',100)
221
222        obj2 = read('Omar',966,'em@w.cn',5)
223        obj2.addBooks('gg','story',100)
224        obj2.addBooks('gg','story',100)
225        obj2.addBooks('gg','story',100)
226        obj2.addBooks('gg','story',100)
227        obj2.addBooks('gg','story',100)
228
229        obj3 = read('Eyad',966,'em@w.cn',6)
230        obj3.addBooks('gg','cv',200)
231        obj3.addBooks('gg','cv',200)
232        obj3.addBooks('gg','cv',100)
233        obj3.addBooks('gg','cv',100)
234        obj3.addBooks('gg','cv',100)
235        obj3.addBooks('gg','cv',100)
236
237        obj4 = read('Saleh',966,'em@w.cn',5)
238        obj4.addBooks('gg','story',100)
239        obj4.addBooks('gg','story',100)
240        obj4.addBooks('gg','story',100)
241        obj4.addBooks('gg','story',100)
242        obj4.addBooks('gg','story',100)
243
244        obj5 = read('Mohammed',966,'em@w.cn',5)
245        obj5.addBooks('gg','story',100)
246        obj5.addBooks('gg','story',100)
247        obj5.addBooks('gg','story',100)
248        obj5.addBooks('gg','story',100)
249        obj5.addBooks('gg','story',100)
250
251        obj6 = read('Walled',966,'em@w.cn',5)
252        obj6.addBooks('gg','story',100)
253        obj6.addBooks('gg','story',100)
254        obj6.addBooks('gg','story',100)
255        obj6.addBooks('gg','story',100)
256        obj6.addBooks('gg','story',100)
257
258        obj7 = read('Rayan',966,'em@w.cn',5)
259        obj7.addBooks('gg','story',100)
260        obj7.addBooks('gg','story',100)
261        obj7.addBooks('gg','story',100)
262        obj7.addBooks('gg','story',100)
263        obj7.addBooks('gg','story',100)
264
265        obj8 = read('Faisal',966,'em@w.cn',5)
266        obj8.addBooks('gg','story',100)
267        obj8.addBooks('gg','story',100)
268        obj8.addBooks('gg','story',100)
269        obj8.addBooks('gg','story',100)
270        obj8.addBooks('gg','story',100)
271
272        obj9 = read('Abdulelah',966,'em@w.cn',5)
273        obj9.addBooks('gg','story',100)
274        obj9.addBooks('Agg','story',100)
275        obj9.addBooks('gg','story',100)
276        obj9.addBooks('gg','story',100)
277        obj9.addBooks('gg','story',100)
278
279        obj10 = read('Khalid',966,'em@w.cn',5)
280        obj10.addBooks('gg','history',100)
281        obj10.addBooks('gg','history',100)
282        obj10.addBooks('gg','history',100)
283        obj10.addBooks('gg','history',100)
284        obj10.addBooks('gg','history',100)
285
```

```python
        # declirate and counting all history/story etc... was written.
        countAllhistory = add_all(obj1.countHistory(), obj2.countHistory(), obj3.countHistory(), obj4.countHistory(), obj5.countHistory(),
                                  obj6.countHistory(), obj7.countHistory(), obj8.countHistory(), obj9.countHistory(), obj10.countHistory())

        countAllstory = add_all(obj1.countStory(), obj2.countStory(), obj3.countStory(), obj4.countStory(), obj5.countStory(),
                                obj6.countStory(), obj7.countStory(), obj8.countStory(), obj9.countStory(), obj10.countStory())

        countAllscientist = add_all(obj1.countScientist(), obj2.countScientist(), obj3.countScientist(), obj4.countScientist(), obj5.countScientist(),
                                    obj6.countScientist(), obj7.countScientist(), obj8.countScientist(), obj9.countScientist(), obj10.countScientist())

        countAllreligious = add_all(obj1.countReligious(), obj2.countReligious(), obj3.countReligious(), obj4.countReligious(), obj5.countReligious(),
                                    obj6.countReligious(), obj7.countReligious(), obj8.countReligious(), obj9.countReligious(), obj10.countReligious())

        countAllLiterature = add_all(obj1.countLiterature(), obj2.countLiterature(), obj3.countLiterature(), obj4.countLiterature(), obj5.countLiterature(),
                                     obj6.countLiterature(), obj7.countLiterature(), obj8.countLiterature(), obj9.countLiterature(), obj10.countLiterature())

        countAllother = add_all(obj1.countOthers(), obj2.countOthers(), obj3.countOthers(), obj4.countOthers(), obj5.countOthers(),
                                obj6.countOthers(), obj7.countOthers(), obj8.countOthers(), obj9.countOthers(), obj10.countOthers())

        # all the following is printing statmentes

        print("NAME","\t\t","BOOKS")
        printSQ(obj1.name,obj1.getNumOfBooks())
        printSQ(obj2.name,obj2.getNumOfBooks())
        printSQ(obj3.name,obj3.getNumOfBooks())
        printSQ(obj4.name,obj4.getNumOfBooks())
        printSQ(obj5.name,obj5.getNumOfBooks())
        printSQ(obj6.name,obj6.getNumOfBooks())
        printSQ(obj7.name,obj7.getNumOfBooks())
        printSQ(obj8.name,obj8.getNumOfBooks())
        printSQ(obj9.name,obj9.getNumOfBooks())
        printSQ(obj10.name,obj10.getNumOfBooks())

        print("")
        print("All the group member has read", add_all(obj1.getNumOfBooks(),obj2.getNumOfBooks(),obj3.getNumOfBooks(),
                        obj4.getNumOfBooks(), obj5.getNumOfBooks(), obj6.getNumOfBooks(),
                        obj7.getNumOfBooks(), obj8.getNumOfBooks(), obj9.getNumOfBooks(),
                        obj10.getNumOfBooks()),"books.")
        print("")
        printMostBooks(obj1.name,obj1.getNumOfBooks(), obj2.name,obj2.getNumOfBooks(), obj3.name,obj3.getNumOfBooks(),
                        obj4.name,obj4.getNumOfBooks(), obj5.name,obj5.getNumOfBooks(), obj6.name,obj6.getNumOfBooks(),
                        obj7.name,obj7.getNumOfBooks(), obj8.name,obj8.getNumOfBooks(), obj9.name,obj9.getNumOfBooks(),
                        obj10.name,obj10.getNumOfBooks())
```

```python
    print("\nCATAGORY \t BOOKS")
    printSQ('history', countAllhistory)
    printSQ('story', countAllstory)
    printSQ('scientist',countAllscientist)
    printSQ('religious',countAllreligious)
    printSQ('literature',countAllLiterature)
    printSQ('other',countAllother)

    print("")
    printMostCatg(countAllhistory, countAllstory, countAllscientist, countAllreligious, countAllLiterature, countAllother )



    print("\nNAME","\t\t","ALL PAGES")
    printSQ(obj1.name,obj1.getAllPages())
    printSQ(obj2.name,obj2.getAllPages())
    printSQ(obj3.name,obj3.getAllPages())
    printSQ(obj4.name,obj4.getAllPages())
    printSQ(obj5.name,obj5.getAllPages())        # passing
    printSQ(obj6.name,obj6.getAllPages())    # name      page
    printSQ(obj7.name,obj7.getAllPages())
    printSQ(obj8.name,obj8.getAllPages())
    printSQ(obj9.name,obj9.getAllPages())
    printSQ(obj10.name,obj10.getAllPages())

    print("")
    printMostPages(obj1.name,obj1.getAllPages(), obj2.name,obj2.getAllPages(), obj3.name,obj3.getAllPages(),
                obj4.name,obj4.getAllPages(),obj5.name,obj5.getAllPages(), obj6.name,obj6.getAllPages(),
                obj7.name,obj7.getAllPages(), obj8.name,obj8.getAllPages(), obj9.name,obj9.getAllPages(),
                obj10.name,obj10.getAllPages())

    print("")
    print("All the group members have read ",add_all(obj1.getAllPages(), obj2.getAllPages(), obj3.getAllPages(),
                                    obj4.getAllPages(), obj5.getAllPages(), obj6.getAllPages(),
                                    obj7.getAllPages(), obj8.getAllPages(), obj9.getAllPages(),
                                    obj10.getAllPages()), "pages.\n")
```

```
214    # this is just for easily test the program
215    obj1 = read('Abdullah',966,'4b@w.cn',5)
216    obj1.addBooks('gg','history',100)
217    obj1.addBooks('gg','history',100)
218    obj1.addBooks('gg','history',100)
219    obj1.addBooks('gg','history',100)
220    obj1.addBooks('gg','history',100)
221
222    obj2 = read('Omar',966,'em@w.cn',5)
223    obj2.addBooks('gg','story',100)
224    obj2.addBooks('gg','story',100)
225    obj2.addBooks('gg','story',100)
226    obj2.addBooks('gg','story',100)
227    obj2.addBooks('gg','story',100)
228
229    obj3 = read('Eyad',966,'em@w.cn',6)
230    obj3.addBooks('gg','cv',200)
231    obj3.addBooks('gg','cv',200)
232    obj3.addBooks('gg','cv',100)
233    obj3.addBooks('gg','cv',100)
234    obj3.addBooks('gg','cv',100)
235    obj3.addBooks('gg','cv',100)
236
237    obj4 = read('Saleh',966,'em@w.cn',5)
238    obj4.addBooks('gg','story',100)
239    obj4.addBooks('gg','story',100)
240    obj4.addBooks('gg','story',100)
241    obj4.addBooks('gg','story',100)
242    obj4.addBooks('gg','story',100)
243
244    obj5 = read('Mohammed',966,'em@w.cn',5)
245    obj5.addBooks('gg','story',100)
246    obj5.addBooks('gg','story',100)
247    obj5.addBooks('gg','story',100)
248    obj5.addBooks('gg','story',100)
249    obj5.addBooks('gg','story',100)
250
251    obj6 = read('Walled',966,'em@w.cn',5)
252    obj6.addBooks('gg','story',100)
253    obj6.addBooks('gg','story',100)
254    obj6.addBooks('gg','story',100)
255    obj6.addBooks('gg','story',100)
256    obj6.addBooks('gg','story',100)
257
258    obj7 = read('Rayan',966,'em@w.cn',5)
259    obj7.addBooks('gg','story',100)
260    obj7.addBooks('gg','story',100)
261    obj7.addBooks('gg','story',100)
262    obj7.addBooks('gg','story',100)
263    obj7.addBooks('gg','story',100)
264
265    obj8 = read('Faisal',966,'em@w.cn',5)
266    obj8.addBooks('gg','story',100)
267    obj8.addBooks('gg','story',100)
268    obj8.addBooks('gg','story',100)
269    obj8.addBooks('gg','story',100)
270    obj8.addBooks('gg','story',100)
271
272    obj9 = read('Abdulelah',966,'em@w.cn',5)
273    obj9.addBooks('gg','story',100)
274    obj9.addBooks('gg','story',100)
275    obj9.addBooks('gg','story',100)
276    obj9.addBooks('gg','story',100)
277    obj9.addBooks('gg','story',100)
278
279    obj10 = read('Khalid',966,'em@w.cn',5)
280    obj10.addBooks('gg','history',100)
281    obj10.addBooks('gg','history',100)
282    obj10.addBooks('gg','history',100)
283    obj10.addBooks('gg','history',100)
284    obj10.addBooks('gg','history',100)
```

C:\WINDOWS\system32\cmd.exe

```
NAME              BOOKS
Abdullah          5
Omar              5
Eyad              6
Saleh             5
Mohammed          5
Walled            5
Rayan             5
Faisal            5
Abdulelah         5
Khalid            5


All the group member has read 51 books.

The one who read books the most is Eyad by 6 books.

CATAGORY          BOOKS
history           10
story             35
scientist         0
religious         0
literature        0
other             6

The most catagory was read is story by 35 books.

NAME              ALL PAGES
Abdullah          500
Omar              500
Eyad              800
Saleh             500
Mohammed          500
Walled            500
Rayan             500
Faisal            500
Abdulelah         500
Khalid            500


The one who read pages the most is Eyad by 800 pages.

All the group members have read  5300 pages.

Press any key to continue . . . _
```