WAP to generate a bill after user buy the product he wants by displaying him the menu of products

```
class store():
    def __init__(self , d1):
        self.d1 = d1
    def findProduct(self):
        f = open("product.txt" , "r")
        line = f.readline()
        priceIndex = 4
        total = 0
        print("\nBill")
        for num in d1:
            if num == 1:
                line = f.readline()
                price = line[priceIndex : ]
                print("Product Code : " , line[:3] , "\tMouse\t : " , float(price) ,
"\tQuantity : " , d1[num] , "\tTotal : " , float(price) * d1[num])
                total += float(price) * d1[num]
            elif num == 2:
                line = f.readline()
                price = line[priceIndex : ]
                print("Product Code : " , line[:3] , "\tKeyboard\t : " , float(price) ,
"\tQuantity : " , d1[num] , "\tTotal : " , float(price) * d1[num])
                total += float(price) * d1[num]
            elif num == 3:
                line = f.readline()
                price = line[priceIndex : ]
                print("Product Code : " , line[:3] , "\tEarpods\t : " , float(price) ,
"\tQuantity : " , d1[num] , "\tTotal : " , float(price) * d1[num])
                total += float(price) * d1[num]
            elif num == 4:
                line = f.readline()
                price = line[priceIndex : ]
                print("Product Code : " , line[:3] , "\tBluetooth\t : " , float(price) ,
"\tQuantity : " , d1[num] , "\tTotal : " , float(price) * d1[num])
                total += float(price) * d1[num]
            elif num == 5:
                line = f.readline()
                price = line[priceIndex : ]
                print("Product Code : " , line[:3] , "\tCPU\t : " , float(price) ,
"\tQuantity : " , d1[num] , "\tTotal : " , float(price) * d1[num])
                total += float(price) * d1[num]
        print("Total\t:\t" , total)
```

```
d1 = {}
ch = 'Y'
while True:
    print("\n1.Mouse\n2.Keyboard\n3.Earpods\n4.Bluetooth\n5.CPU")
    num = int(input("Enter the product number to buy a product : "))
    if num < 1 or num > 5:
        print("\nNo Product Found")
        break
    qty = int(input("How much quantity do you want ? "))
    d1[num] = qty
    ch = input("\nWant to buy more ? (Y/N)")
    if ch == 'N' or ch == 'n':
        break
    elif ch != 'Y' and ch != 'y':
        print("\nWrong Choice Entered")
        break

obj = store(d1)
obj.findProduct()
```

OUTPUT

```
1.Mouse
2.Keyboard
3.Earpods
4.Bluetooth
5.CPU
Enter the product number to buy a product : 2
How much quantity do you want ? 2

Want to buy more ? (Y/N)y

1.Mouse
2.Keyboard
3.Earpods
4.Bluetooth
5.CPU
Enter the product number to buy a product : 4
How much quantity do you want ? 4

Want to buy more ? (Y/N)y

1.Mouse
2.Keyboard
3.Earpods
```

```
4.Bluetooth
5.CPU
Enter the product number to buy a product : 1
How much quantity do you want ? 1

Want to buy more ? (Y/N)y

1.Mouse
2.Keyboard
3.Earpods
4.Bluetooth
5.CPU
Enter the product number to buy a product : 5
How much quantity do you want ? 5

Want to buy more ? (Y/N)n

Bill
Product Code :  X01  Keyboard  :  120.5      Quantity :  2     Total :  241.0
Product Code :  X03         Bluetooth :  399.99    Quantity :  4     Total :  1599.96
Product Code :  X04         Mouse      :  4374.39  Quantity :  1     Total :  4374.39
Product Code :  X08         CPU  :  34.0       Quantity :  5     Total :  170.0
Total:         6385.35
```

Write a menu driven program for the books and magazines available in a library

```
class Book():
    def addBook(self):
        f = open("books.txt" , "a")
        title = input("\nEnter title : ")
        author = input("Enter author name : ")
        price = float(input("Enter price : "))
        Type = input("Enter type : ")
        f.write("Title  :       " + title + "\tAuthor   :   " + author + "\tPrice   :   " +
str(price) + "\tType    :   " + Type + "\n")
        f.close()

    def searchBook(self):
        f = open("books.txt" , "r")
        line = f.readline()
        title = input("Enter name : ")
        while line != '':
            titleIndex = 8
            endIndex = line.find("\tAuthor")
            name = line[titleIndex : endIndex]
```

```
            if name == title:
                print("Record Found")
                print(line)
                break
            else:
                line = f.readline()
        else:
            print("No record found")

    def displayBooks(self):
        f = open("books.txt" , "r")
        for line in f:
            startIndex = line.rfind("\t") + 1
            Type = line[startIndex : len(line)-1]
            if Type == "Book":
                print(line)

    def displayMagazines(self):
        f = open("books.txt" , "r")
        for line in f:
            startIndex = line.rfind("\t") + 1
            Type = line[startIndex : len(line)-1]
            if Type == "Magazine":
                print(line)

obj = Book()
while True:
    print("\nEnter 1 to add a new book/magazine")
    print("Enter 2 to search for a boook/magazine")
    print("Enter 3 to display all books")
    print("Enter 4 to display all magazines")
    print("Enter 5 to exit")
    ch = int(input("\nEnter your choice : "))
    if ch == 1:
        obj.addBook()
    elif ch == 2:
        obj.searchBook()
    elif ch == 3:
        obj.displayBooks()
    elif ch == 4:
        obj.displayMagazines()
    elif ch == 5:
        break
    else:
        print("No choice found")
        break
```

OUTPUT

```
Enter 1 to add a new book/magazine
Enter 2 to search for a boook/magazine
Enter 3 to display all books
Enter 4 to display all magazines
Enter 5 to exit

Enter your choice : 1

Enter title : All In One
Enter author name : Daniel Sam
Enter price : 291.2
Enter type : Book

Enter 1 to add a new book/magazine
Enter 2 to search for a boook/magazine
Enter 3 to display all books
Enter 4 to display all magazines
Enter 5 to exit

Enter your choice : 3
Title : Understanding Philosophy Author : Benjamin Franklin
Price : 499.88 Type: Book

Title : Halloween Author : Christopher Price :
1567.90 Type: Book

Title : United Nations Author : Dr.Fernandez Price :
2000.50 Type: Book

Title : The Tour of Mumbai Author : Rajvardhan Price :
893.32 Type : Book

Title : All the best Author : Franky Shaun Price : 467.32
Type : Book

Title : All In One Author : Daniel Sam Price : 291.2 Type
: Book


Enter 1 to add a new book/magazine
Enter 2 to search for a boook/magazine
Enter 3 to display all books
Enter 4 to display all magazines
Enter 5 to exit
```

```
Enter your choice : 2
Enter name : Night Out
Record Found
Title :  Night Out  Author  :  Saira James  Price  :  250.37  Type :  Magazine


Enter 1 to add a new book/magazine
Enter 2 to search for a boook/magazine
Enter 3 to display all books
Enter 4 to display all magazines
Enter 5 to exit

Enter your choice : 4
Title :  Sunset and Sunrise Author  :  Sheldon Jackson  Price  :  123.50  Type :  Magazine

Title  :  Summer Holiday  Author  :  Ryela  Price  :  209.12  Type  :  Magazine


Enter 1 to add a new book/magazine
Enter 2 to search for a boook/magazine
Enter 3 to display all books
Enter 4 to display all magazines
Enter 5 to exit

Enter your choice : 5
```

WAP to check whether a string is magic string or not

```
def magic(s):
    for i in range(len(s)-1):
        if s[i] == s[i+1]:
            print("Magic String")
            break
    else:
        print("Not a magic string")
s = input("Enter a word : ")
magic(s)
```

OUTPUT

```
Enter a word : Sunny
```

WAP to check x occurrences of k in a sequence s

```
def searchmany(seq,x,k):
    c = 0
    for i in seq:
        if i == x:
            c = c + 1
    if c == k:
        return True
    else:
        return False
seq = eval(input("Enter a list of numbers : "))
x = int(input("Enetr the number you want to search : "))
k = int(input("Enter the occurneces of searched number : "))
print(searchmany(seq,x,k))
```

OUTPUT

```
Enter a list of numbers : [1,3,4,2,5,1,7,5,6]
Enetr the number you want to search : 5
Enter the occurneces of searched number : 2
True
```

WAP to generate a random password of length 10

```
import random
pswd = ""
for i in range(3):
    pswd += chr(random.randint(65,90))
for i in range(2):
    pswd += str(random.randint(0,9))
for i in range(2):
    pswd += chr(random.randint(32,38))
for i in range(3):
    pswd += chr(random.randint(97,122))
pswd = list(pswd)
random.shuffle(pswd)
print(''.join(pswd))
```

OUTPUT

```
Y9%%9RKrzs
```

WAP to print only the digits from an alphanumeric file

```
def printdigit(f):
    f = open("sample.txt","r")
    for line in f:
        for ch in line:
            if ch.isdigit():
                print(ch , end = ' ')
        print()
    f.close()
f = open("sample.txt","w+")
f.write("I am 20 years old\n")
f.write("you have passed the exam with 99%\n")
f.close()
printdigit("sample.txt")
```

OUTPUT

```
2 0
9 9
```

WAP to count the telephone numbers of those customers whose name starts with A or M and ends with N or H in a file

```
def countnumber(f):
    c = 0
    line = f.readline()
    while line != '':
        for i in range(len(line)):
            if line[i] == " ":
                j = i - 1
                if(line[0] == 'A' or line[0] == 'M') and (line[j] == 'n' or line[j] == 'h'):
                    c = c + 1
        line = f.readline()
    print(c)
f = open("tel.txt","w+")
f.write("Saad 7275744110\n")
f.write("Abc 7210122873\n")
f.write("Arhaan 8213991212\n")
f.write("Main 01882913133\n")
f.write("Mahesh 82973934225\n")
f.close()
countnumber(open("tel.txt","r"))
```

OUTPUT

3

Write a menu driven program for the student record

```
while True:
    print("\nEnter 1 to add a new record")
    print("Enter 2 to delete a record")
    print("Enter 3 to update an existing record")
    print("Enter 4 to display a particular record")
    print("Enter 5 to display all records")
    print("Enter 6 to display the top 5 scorers")
    print("Enter 7 to exit")
    ch = int(input("Enter your choice : "))
    if ch == 1:
        f = open("stu.txt","a+")
        Id = input("Enter student id : ")
        name = input("Enter student name : ")
        no = input("Enter contact number : ")
        per = input("Enter percentage : ")
        f.write("Id = " + Id + "\tName = " + name + "\tNumber = " + no +
"\tPercentage = " + per + "%\n")
        f.close()
        print("\nRecord added\n")
    elif ch == 2:
        f = open("stu.txt","r")
        Id = input("Enter student id whose record you want to delete : ")
        data = f.readlines()
        f = open("stu.txt","w")
        for line in data:
            if Id not in line:
                f.write(line)
        f.close()
        print("\nRecord deleted\n")
    elif ch == 3:
        newrec = []
        f = open("stu.txt","r")
        Id = input("Enter student id whose record you want to update : ")
        data = f.readlines()
        for line in data:
            if Id in line:
                newId = input("Enter new student id : ")
                newname = input("Enter new student name : ")
```

```
            newno = input("Enter new contact number : ")
            newper = input("Enter new percentage : ")
            line = ("Id = " + newId + "\tName = " + newname + "\tNumber = " +
newno + "\tPercentage = " + newper + "%\n")
        newrec.append(line)
    f.close()
    f = open("stu.txt","w")
    for line in newrec:
        f.write(line)
    f.close()
    print("\nRecord updated\n")
elif ch == 4:
    found = 0
    f = open("stu.txt","r")
    Id = input("Enter the student id whose record you want to display : ")
    for line in f:
        if Id in line:
            print(line)
            found += 1
    if found == 0:
        print("\nNo record found\n")
    f.close()
elif ch == 5:
    f = open("stu.txt","r")
    print(f.read())
    f.close()
elif ch == 6:
    lst = []
    c = 0
    f = open("stu.txt","r")
    data = f.readlines()
    if len(data) < 5:
        print("\nOnly",len(data),"records are available\nEnter more
records\n")
    else:
        for line in data:
            index = line.rfind(" ") + 1
            lst.append(float(line[index : len(line)-2]))
        lst.sort()
        lst.reverse()
        print("\nTop 5 scorers\n")
        for i in lst:
            for line in data:
                index = line.rfind(" ") + 1
                if i == float(line[index : len(line)-2]):
                    print(line)
```

```
    elif ch == 7:
        break
```

OUTPUT

```
Enter 1 to add a new record
Enter 2 to delete a record
Enter 3 to update an existing record
Enter 4 to display a particular record
Enter 5 to display all records
Enter 6 to display the top 5 scorers
Enter 7 to exit
Enter your choice : 5
Id = 24      Name = Saad   Number = 727574     Percentage = 97.3%
Id = 45      Name = Arham Number = 892631     Percentage = 90.3%


Enter 1 to add a new record
Enter 2 to delete a record
Enter 3 to update an existing record
Enter 4 to display a particular record
Enter 5 to display all records
Enter 6 to display the top 5 scorers
Enter 7 to exit
Enter your choice : 1
Enter student id : 83
Enter student name : Alina
Enter contact number : 982631
Enter percentage : 86.3

Record added


Enter 1 to add a new record
Enter 2 to delete a record
Enter 3 to update an existing record
Enter 4 to display a particular record
Enter 5 to display all records
Enter 6 to display the top 5 scorers
Enter 7 to exit
Enter your choice : 5
Id = 24      Name = Saad   Number = 727574     Percentage = 97.3%
Id = 45      Name = Arham Number = 892631     Percentage = 90.3%
Id = 83      Name = Alina   Number = 982631     Percentage = 86.3%


Enter 1 to add a new record
```

```
Enter 2 to delete a record
Enter 3 to update an existing record
Enter 4 to display a particular record
Enter 5 to display all records
Enter 6 to display the top 5 scorers
Enter 7 to exit
Enter your choice : 2
Enter student id whose record you want to delete : 83

Record deleted


Enter 1 to add a new record
Enter 2 to delete a record
Enter 3 to update an existing record
Enter 4 to display a particular record
Enter 5 to display all records
Enter 6 to display the top 5 scorers
Enter 7 to exit
Enter your choice : 5
Id = 24      Name = Saad   Number = 727574     Percentage = 97.3%
Id = 45      Name = Arham Number = 892631     Percentage = 90.3%


Enter 1 to add a new record
Enter 2 to delete a record
Enter 3 to update an existing record
Enter 4 to display a particular record
Enter 5 to display all records
Enter 6 to display the top 5 scorers
Enter 7 to exit
Enter your choice : 7
```

WAP that throws an exception if a name has “Kumar” as a substring

```
class UnauthorizedUser(Exception):
    pass
try:
    name = input("Enter your name : ")
    c = name.find("Kumar")
    if c == -1:
```

```
        print("You are authorized")
    else:
        raise UnauthorizedUser
except UnauthorizedUser:
    print("Unauthorized User")
```

OUTPUT

```
Enter your name : Akshay Kumar Yadav
Unauthorized User
```