**Team #no 8**

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**We are Planning to model a property management system using python**

**SIMILARITIES AND DIFFERENCES:**

1)The Time complexity is almost same in both c plus plus and python for our model.

2)Even though Time complexity is same c plus plus runs faster than python due to caching.

3)The space complexity is also same in both python and c plus plus for our model.

4)Even though space complexity is same python reduces the usage of memory as it considers constants as a object and assign the same memory address for every variable which is equal to that constant

5)Python is more readable code when compared to c plus plus because of the syntax

6)In c plus plus we have to mention parameter types and return value type of a function in prior but that’s not the case in python.

7)To make generic type functions we need to use templates in cpp but we can directly build generic type functions in python

8)C plus plus is diffcult to learn for beginners whereas python is beginner friendly language

**Real world Example(our Model):**

We are designing a Property management system.

Where we make a enviroment to make deals between seller and buyer through our model

We maintain details (list of) of sellers,buyers,brokers,admin

And whenever a new user wants to register can register and

A existing user can make registrations,payments through our model.

And also a single user can make multiple deals in our system.

**Choice of programming language:**

Our choice of programming language is python.

Pros of python:

1)The code in python is much more readable and smaller when compared to c plus plus.

2)Python programms are easier to write.

3)python is dynamically typed language.So,its easy to type conversions and to create functions with generic type.

4)Python has huge standard library because of it programmers can save lot of time.

5)Rapid prototyping is possible due to smaller size of code in python whereas in c plus plus its not possible.

Cons of python:

1)python is a interpreted language whereas c plus plus precompiled language the compiling speed of c plus plus is way ahead of python.

**Code of our model:**

sellerlst=[]

buyerlst=[]

brokerlst=[]

adminlst=[]

reglst=[]

paylst=[]

class seller:

def \_\_init\_\_(self):

self.id=None

self.pwd=None

self.name=None

self.income=0

self.setdetails()

def addincome(self,a):

self.income+=a

def setdetails(self):

self.id=str(input())

self.pwd=str(input())

self.name=str(input())

self.income=0

def getdetails(self):

print(self.id)

print(self.pwd)

print(self.name)

print(self.income)

class buyer:

def \_\_init\_\_(self):

self.id=None

self.pwd=None

self.name=None

self.setdetails()

def setdetails(self):

self.id=str(input())

self.pwd=str(input())

self.name=str(input())

def getdetails(self):

print(self.id)

print(self.pwd)

print(self.name)

class broker:

def \_\_init\_\_(self):

self.id=None

self.pwd=None

self.name=None

self.income=0

self.setdetails()

def addincome(self,a):

self.income+=a

def setdetails(self):

self.id=str(input())

self.pwd=str(input())

self.name=str(input())

self.income=0

def getdetails(self):

print(self.id)

print(self.pwd)

print(self.name)

print(self.income)

class admin:

def \_\_init\_\_(self):

self.id=None

self.pwd=None

self.name=None

self.income=0

self.setdetails()

print(2)

def addincome(self,a):

self.income+=a

def setdetails(self):

print(2)

self.id=str(input())

self.pwd=str(input())

self.name=str(input())

self.income=0

def getdetails(self):

print(self.id)

print(self.pwd)

print(self.name)

print(self.income)

class registration:

def \_\_init\_\_(self):

self.rid=str(input())

print("Enter seller login id ")

self.sel=str(input())

print("Enter buyer login id ")

self.buy=str(input())

print("Enter broker login id ")

self.bro=str(input())

self.status=False

self.verify()

def verify(self):

flag=0

for i in sellerlst:

if i.id==self.sel:

flag=1

break

if flag==0:

print("invalid seller login id")

else:

flag=0

for i in buyerlst:

if i.id==self.buy:

flag=1

break

if(flag==0):

print("invalid seller login id")

else:

flag=0

for i in brokerlst:

if(i.id==self.bro):

flag=1

break

if(flag==0):

print("invalid broker login id")

else:

self.status=True

def getstatus(self):

if(self.status):

print("Registration is succesfull")

else:

print("Registration is pending")

print("to continue with registration press 1")

a=int(input())

if a==1:

print("Enter seller login id ")

self.sel=str(input())

print("Enter buyer login id ")

self.buy=str(input())

print("Enter broker login id ")

self.bro=str(input())

self.verify()

class payment:

def \_\_init\_\_(self):

self.pid=str(input())

print("Enter seller login id ")

self.sel=str(input())

print("Enter admin login id ")

self.adm=str(input())

print("Enter broker login id ")

self.bro=str(input())

self.status=False

self.verify()

def verify(self):

flag=0

for i in sellerlst:

if i.id==self.sel:

flag=1

break

if flag==0:

print("invalid seller login id")

else:

flag=0

for i in adminlst:

if i.id==self.adm:

flag=1

break

if(flag==0):

print("invalid admin login id")

else:

flag=0

for i in brokerlst:

if(i.id==self.bro):

flag=1

break

if(flag==0):

print("invalid broker login id")

else:

self.status=True

def getstatus(self):

if(self.status):

print("Payment is succesfull")

else:

print("Payment is pending")

print("to continue with payment press 1")

a=int(input())

if a==1:

print("Enter seller login id ")

self.sel=str(input())

print("Enter admin login id ")

self.adm=str(input())

print("Enter broker login id ")

self.bro=str(input())

self.verify()

print("Enter choice")

choice=int(input())

while choice!=0:

if choice==1:

print(2)

s1=seller()

print(3)

sellerlst.append(s1)

elif choice==2:

b1=buyer()

buyerlst.append(b1)

elif choice==3:

br1=broker()

brokerlst.append(br1)

elif choice==4:

r1=registration()

reglst.append(r1)

elif choice==5:

p1=payment()

paylst.append(p1)

elif choice==6:

print("enter your registration id to check registration is succesfull or not")

x=str(input())

flag=0

for i in reglst:

if(i.rid==x):

i.getstatus()

flag=1

break

if flag==0:

print("The registration id you entered is invalid")

elif choice==7:

print("enter your paymenr id to check payment is succesfull or not")

x=str(input())

flag=0

for i in paylst:

if(i.pid==x):

i.getstatus()

flag=1

break

if flag==0:

print("The payment id you entered is invalid")

elif choice==8:

a1=admin()

adminlst.append(a1)

print("Enter choice")

choice=int(input())