PRACTICAL LIST

1.Writeafunctionthattakesthelengthsofthreesides:side1,side2andside3of thetriangleastheinputfromtheuserusinginputfunctionandreturnthearea andperimeterofthetriangleasatuple.Also,assertthatsumofthelengthofany twosidesisgreaterthanthethirdside.

2.Considerashowroomofelectronicproducts,wheretherearevarious salesmen.Eachsalesmanisgivenacommissionof5%,dependingonthesales madepermonth.Incasethesaledoneislessthan50000,thenthesalesmanis notgivenanycommission.Writeafunctiontocalculatetotalsalesofasalesman inamonth,commissionandremarksforthesalesman.Salesdonebyeach salesmanperweekistobeprovidedasinput.Usetuples/listtostoredataof salesmen.

Assignremarksaccordingtothefollowingcriteria:

Excellent:Sales>=80000

Good:Sales>=60000and<80000

Average:Sales>=40000and<60000

WorkHard:Sales<40000

3.WriteaPythonfunctiontofindthenthtermofFibonaccisequenceandits factorial.Returntheresultasalist.

4.Writeafunctionthattakesanumber(>=10)asaninputandreturnthedigitsof thenumberasaset.

5.Writeafunctionthatfindsthesumofthentermsofthefollowingseries. Importthefactorialfunctioncreatedinquestion4.

1–x2/2!+x4/4!–x6/6!+…xn/n!

6.Consideratuplet1={1,2,5,7,9,2,4,6,8,10}.Writeaprogramtoperformfollowing operations:

a)Printanothertuplewhosevaluesareevennumbersinthegiventuple.

b)Concatenateatuplet2={11,13,15)witht1.

c)Returnmaximumandminimumvaluefromthistuple.

7.Writeamenudrivenprogramtoperformthefollowingonstrings:

a)Findthelengthofstring.

b)Returnmaximumofthreestrings.

c)Acceptastringandreplaceallvowelswith“#”

d)Findnumberofwordsinthegivenstring.

e)Checkwhetherthestringisapalindromeornot.

8.WriteaPythonprogramtoperformthefollowingusinglist:

a)Checkifallelementsinlistarenumbersornot.

b)Ifitisanumericlist,thencountnumberofoddvaluesinit.

c)IflistcontainsallStrings,thendisplaylargestStringinthelist.

d)Displaylistinreverseform.

e)Findaspecifiedelementinlist.

f)Removethespecifiedelementfromthelist.

g)Sortthelistindescendingorder.

h)accept2listsandfindthecommonmembersinthem.

9.Usedictionarytostoremarksofthestudentsin4subjects.Writeafunctionto findthenameofthestudentsecuringhighestpercentage.(Hint:Namesof studentsareunique).

10.Writeafunctionthattakesasentenceasinputfromtheuserandcalculates thefrequencyofeachletter.Useavariableofdictionarytypetomaintainthe count.

11.Writeamenu-drivenprogramtoacceptalistofstudentnamesandperform thefollowing

a.searchanelementusinglinearsearch/binarysearch.

b.Sorttheelementsusingbubblesort/insertionsort/selectionsort.

12.Writeaprogramthatmakesuseofafunctiontoacceptalistofnintegers anddisplaysahistogram.

13.Writeaprogramthatmakesuseofafunctiontodisplaysine,cosine, polynomialandexponentialcurves.

14.Writeafunctionthatreadsafilefile1andcopiesonlyalternativelinesto anotherfile file2.Alternativelinescopiedshouldbetheoddnumberedlines.UseException.

15.DefineaclassStudenttostorehis/hernameandmarksinthreesubjects. Useaclassvariabletostorethemaximumaveragemarksoftheclass.Use constructoranddestructortoinitializeanddestroytheobjects.