|  |  |
| --- | --- |
| Coventry University/CityU  Submit to Canvas |  |
| StudentID : 57125827  Family Name(s):Hui  Forename(s):NokYi  Declaration: I / We declare that this Coursework is my / our own work. Cheating is a serious academic offense. I / We have read and agree to abide by the University guidance on Academic Honesty.  Signature(s):hui nok yi  Time taken to complete assignment (hrs):30h | |
| Module Code/Title: CHK121COM Introduction to Computing  Lecturer/Tutor: Terence Chan  Hand-out Date: Week 1  Assignment No./Title: Programming Assignment  Assignment Type: Individual  Estimated Time (hrs): 20 hours | Due Date: Week 11 |
| Learning Outcomes Assessed (or on separate sheet)  Intended Module Learning Outcomes 1,2,3 | |
| Assessment Criteria (on separate sheet) Max Awarded  —-----------------------------  (According to the coursework document) | |
| Comments  Assessor’s signature:  Date: | Total  —----------------------------------------------  Final Mark: |

# programma

grade.py

from Student import Student

from Student121 import Student121

import fileinput

import matplotlib.pyplot as plt

import sys

test = []

data = [] # list of Student121 objects

error = ['Invalid Cw1mark','Invalid Testmark','Invalid Cw2mark','Invalid Exammark']#error name

def is\_number(n):

try:

float(n)

return True

except ValueError:

pass

def bubblesort(seq):

for i in range(len(seq)-1):

for j in range(len(seq)-1,i,-1):

if seq[j-1].getName() > seq[j].getName():

seq[j-1], seq[j] = seq[j], seq[j-1]

return seq

def displayFile(datafile):

for line in fileinput.input(datafile):

sys.stdout.write(line)

def readData(datafile):

'''

readData() to read in student mark data and store in a list

'''

fileIn = open(datafile, 'r') # open inputfile using paramepasster datafile

lines = fileIn.read().splitlines() # read in all transaction lines

if len(lines) == 0 :

raise Exception ('Empty input file ')

for line in lines:

test = line.split('\_')

correct = True

if len(test) != 6:#do not use the line which have less than or more than datas

sys.stderr.write(line + 'invalid date\n')

correct = False

if test[0] == '':#do not use lines which have missing data

sys.stderr.write(line + 'missing studentID\n')

correct = False

elif test[1] == '':

sys.stderr.write(line + 'missing studentName\n')

correct = False

for i in range(4):#do not use line which have wrong mark

if is\_number(test[i+2]) != True :

sys.stderr.write(line + error[i] + '\n')

correct = False

break

elif float(test[i+2]) > 100 or float(test[i+2]) < 0 :

sys.stderr.write(line + error[i] + '\n')

correct = False

break

i = 0

while i < Student.numStudent:# do not use duplicate data

if data[i].getStudID() == test[0] and data[i].getName() == test[1] :

sys.stderr.write(line + 'duplicate date\n')

correct = False

break

elif data[i].getStudID() == test[0]:

sys.stderr.write(line + 'or' + e + 'invalid studentid\n')

correct = False

break

else:

i += 1

if correct == True :

data.append(Student121(line)) # append each record to list of student data

def printalldata():

'''

menuItem2() to print valid student mark data

'''

print('%-10s%-15s%10s%10s%10s%10s'%('Stud ID','Name','CW1 mark', 'Test mark',

'CW2 mark','Exam mark'))

print('='\*65)

# loop to print out each components

for e in data:

print(e)

def adjustment():

try:

studentID = input("studentID: ")

if studentID == '':

raise Exception ('Invalid student ID')

studentName = input("studentName: ")

if studentName == '':

raise Exception ('Invalid studentName')

markQ = ["CW1mark: ","testMark: ","CW2mark: ","examMark: "]

mark = ['','','','']

for i in range(4):

mark[i] = input(markQ[i])

if mark[i] == '':

raise Exception(error[i])

break

elif is\_number(mark[i]) == False:

raise Exception(error[i])

break

elif float(mark[i]) > 100 or float(mark[i]) < 0:

raise Exception(error[i])

break

CW1mark = float(mark[0])

testMark = float(mark[1])

CW2mark = float(mark[2])

examMark = float(mark[3])

i = 0

for i in range(Student.numStudent):

if data[i].getStudID() == studentID:

if data[i].getName() != studentName:

raise Exception('incorrect StudentID or StudentName ')

else:

if data[i].getTest() != testMark:

data[i].setTest(testMark)

if data[i].getIAsgmt() != CW1mark:

data[i].setIAsgmt(CW1mark)

if data[i].getGAsgmt() != CW2mark:

data[i].setGAsgmt(CW2mark)

if data[i].getExam() != examMark:

data[i].setExam(examMark)

if i == Student.numStudent:

raise Exception ('Invalid student ID')

overallmark()

except Exception as exception:

sys.stderr.write(str(exception)+'\n')

def overallmark():

'''

menuItem4() to print student mark with overall result

'''

print('%-10s%-15s%10s%10s%10s%10s%10s%10s'%('Stud ID','Name','CW1 mark', 'Test mark',

'CW2 mark','Exam mark','CW mark','Overall'))

print('='\*85)

# loop to print out each components

for e in bubblesort(data):

print("%65s%10.2f%10.2f"%(e,e.getCoursework(),e.overall()))

def selectstudent():

'''

menuItem4() to print student mark with overall result < 40

'''

print('%-10s%-15s%10s%10s%10s%10s%10s%10s'%('Stud ID','Name','CW1 mark', 'Test mark',

'CW2 mark','Exam mark','CW mark','Overall'))

print('='\*85)

# loop to print out each components

for e in bubblesort(data):

if e.overall() < 40:

print("%65s%10.2f%10.2f"%(e,e.getCoursework(),e.overall()))

def plot():

fig = plt.figure(figsize=(10,8)) # width x height in inches

ax1 = fig.add\_subplot(111)

gradeFeq = {'A':0,'B':0,'C':0,'D':0,'F':0}

for e in data:

if e.overall() < 40:

gradeFeq['F'] += 1

elif e.overall() < 50:

gradeFeq['D'] += 1

elif e.overall() < 65:

gradeFeq['C'] += 1

elif e.overall() < 75:

gradeFeq['B'] += 1

else:

gradeFeq['A'] += 1

ax1.bar(['A','B','C','D','F'],

[gradeFeq['A'],gradeFeq['B'],gradeFeq['C'],gradeFeq['D'],gradeFeq['F']])

ax1.set\_xlabel('Grade')

ax1.set\_ylabel('Student Numbers')

ax1.set\_title('Grade Distribution')

plt.show()

def main():

instructions = """\nEnter one of the following:

1 to print the contents of input data file

2 to print all valid input data

3 to enter adjustment marks

4 to print all students overall mark

5 to overall mark all students whose mark less than 40

6 to plot distribution of grade

Q to end \n"""

while True:

sys.stderr.flush()

sys.stdout.write (instructions)

choice = input( "Enter 1 to 6 " )

sys.stdout.flush()

if choice == "1":

displayFile(sys.argv[1])

elif choice == "2":

printalldata()

elif choice == "3":

adjustment()

elif choice == "4":

overallmark()

elif choice == "5":

selectstudent()

elif choice == "6":

plot()

elif choice == "Q":

break

print ("End Grade Processing App")

if \_\_name\_\_ == "\_\_main\_\_":

try:

sys.argv = ['markdata1.dat','markdata.dat']

displayFile(sys.argv[1])

readData(sys.argv[1])

main()

except IndexError as error:

sys.stderr.write('Type \"python grade.py filename\" to run program\n')

except Exception as error:

sys.stderr.write(str(error)+'\n')

student.py

'''

Student class

Created on Oct 5, 2018

@author: dcywchan

'''

class Student(object):

'''

Student class to represent each student object

'''

numStudent = 0 # class variable to record number of student

def \_\_init\_\_(self,studID,name):

'''

constructor method

Parameters:

- studID: student ID

- name: name of student

NOTE: Cannot create object of class Student."""

'''

if self.\_\_class\_\_ == Student:

raise NotImplementedError("Cannot create object of class Student")

Student.numStudent += 1

self.\_\_studID = studID

self.\_\_name = name

def getStudID(self):

'''

accessor method to get student ID

'''

return self.\_\_studID

def getName(self):

'''

accessor method to get student name

'''

return self.\_\_name

def overall(self):

"""Abstract method; derived classes must override"""

raise NotImplementedError("Cannot call abstract method")

def \_\_str\_\_(self):

'''

String representation of student object

'''

return '%-10s%-15s'%(self.getStudID(),self.getName())

student121.py

from Student import Student

import sys

'''

Student121 class in Student121V2.py

Created on March 16, 2022

@author: dcywchan

'''

class Student121(Student):

'''

Student121 class to represent each 121COM student object

'''

CW1weight = 0.2 # class variable for weights for the coursework 1

CW2weight = 0.2 # class variable for weights for the coursework 2

CW3weight = 0.6 # class variable for weights for the coursework 3

CWweight = 0.7 # class variable for weights for the coursework

EXweight = 0.3 # class variable for weights for the exam

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

'''

constructor method

Parameters:

- dataLine with following data feilds

e.g. "50123456\_lam tai man\_85.5\_80.0\_80.0\_90.0"

- studID: student ID

- name: name of student

- test: test mark

- iAsgn: individual assignment mark

- gAsgn: group assignment mark

- exam: exam mark

'''

studentRec=dataLine.split('\_')

Student.\_\_init\_\_(self,studentRec[0],studentRec[1])

self.\_\_iAsgn = float(studentRec[2])

self.\_\_test = float(studentRec[3])

self.\_\_gAsgn = float(studentRec[4])

self.\_\_exam = float(studentRec[5])

def getTest(self):

'''

accessor method to get student test mark

'''

return self.\_\_test

def setTest(self, mark):

'''

mutator method to get student test mark

'''

self.\_\_test = mark

def getIAsgmt(self):

'''

accessor method to get student nindividual assignment mark

'''

return self.\_\_iAsgn

def setIAsgmt(self, mark):

'''

mutator method to set student individual assignment mark

'''

self.\_\_iAsgn = mark

def getGAsgmt(self):

'''

accessor method to get student group assignment mark

'''

return self.\_\_gAsgn

def setGAsgmt(self, mark):

'''

mutator method to get student group assignment mark

'''

self.\_\_gAsgn = mark

def getExam(self):

'''

accessor method to get student examination mark

'''

return self.\_\_exam

def setExam(self, mark):

'''

mutator method to set student examination mark

'''

self.\_\_exam = mark

def getCoursework(self):

'''

accessor method to get student coursework mark

'''

return Student121.CW1weight \* self.getTest() + \

Student121.CW2weight \* self.getIAsgmt() + \

Student121.CW3weight \* self.getGAsgmt()

def overall(self):

'''

service method to calculate overall mark from the weighted sum of the coursework mark and the the exam mark

'''

return Student121.CWweight \* self.getCoursework() + \

Student121.EXweight \* self.getExam()

def \_\_str\_\_(self):

'''

String representation of student object

'''

return '%25s%10.2f%10.2f%10.2f%10.2f'%(Student.\_\_str\_\_(self),self.getIAsgmt(),self.getTest(),self.getGAsgmt(),self.getExam())

# Testing

markdata.dat

|  |
| --- |
| 50123456\_lam tai man\_85.5\_80.0\_80.0\_90.0  50223456\_li tai man\_61.0\_90.5\_60.0\_55.5  50323456\_wong tai man\_90.0\_30.0\_50.0\_79.5  50423456\_ng tai man\_62.75\_70.0\_65.5\_48.5  50523456\_lau tai man\_58.0\_62.4\_86.55\_70.0  50623456\_chui tai man\_31.0\_64.5\_46.0\_29.5  50723456\_lim tai man\_86.45\_60.0\_88.5\_89.5  50823456\_pok tai man\_53.0\_35.50\_75.5\_49.5  50923456\_kim tai man\_58.25\_80.0\_36.0\_56.5  50023456\_tsang tai man\_35.5\_20.0\_55.5\_79.0  50713456\_lee tai man\_26.45\_30.0\_35.5\_30.5  50813456\_po tai man\_23.0\_35.50\_25.5\_29.5  50913456\_yim tai man\_18.25\_40.0\_36.0\_26.5  50013456\_tse tai man\_5.5\_20.0\_5.5\_9.0 |

|  |  |  |  |
| --- | --- | --- | --- |
| # | Test data | Expected output | pass |
| 1 |  | 50123456\_lam tai man\_85.5\_80.0\_80.0\_90.0  50223456\_li tai man\_61.0\_90.5\_60.0\_55.5  50323456\_wong tai man\_90.0\_30.0\_50.0\_79.5  50423456\_ng tai man\_62.75\_70.0\_65.5\_48.5  50523456\_lau tai man\_58.0\_62.4\_86.55\_70.0  50623456\_chui tai man\_31.0\_64.5\_46.0\_29.5  50723456\_lim tai man\_86.45\_60.0\_88.5\_89.5  50823456\_pok tai man\_53.0\_35.50\_75.5\_49.5  50923456\_kim tai man\_58.25\_80.0\_36.0\_56.5  50023456\_tsang tai man\_35.5\_20.0\_55.5\_79.0  50713456\_lee tai man\_26.45\_30.0\_35.5\_30.5  50813456\_po tai man\_23.0\_35.50\_25.5\_29.5  50913456\_yim tai man\_18.25\_40.0\_36.0\_26.5  50013456\_tse tai man\_5.5\_20.0\_5.5\_9.0  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |
| 2 | enter 1 | 50123456\_lam tai man\_85.5\_80.0\_80.0\_90.0  50223456\_li tai man\_61.0\_90.5\_60.0\_55.5  50323456\_wong tai man\_90.0\_30.0\_50.0\_79.5  50423456\_ng tai man\_62.75\_70.0\_65.5\_48.5  50523456\_lau tai man\_58.0\_62.4\_86.55\_70.0  50623456\_chui tai man\_31.0\_64.5\_46.0\_29.5  50723456\_lim tai man\_86.45\_60.0\_88.5\_89.5  50823456\_pok tai man\_53.0\_35.50\_75.5\_49.5  50923456\_kim tai man\_58.25\_80.0\_36.0\_56.5  50023456\_tsang tai man\_35.5\_20.0\_55.5\_79.0  50713456\_lee tai man\_26.45\_30.0\_35.5\_30.5  50813456\_po tai man\_23.0\_35.50\_25.5\_29.5  50913456\_yim tai man\_18.25\_40.0\_36.0\_26.5  50013456\_tse tai man\_5.5\_20.0\_5.5\_9.0  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |
| 3 | enter 2 | Stud ID Name CW1 mark Test mark CW2 mark Exam mark  =================================================================  50123456 lam tai man 85.50 80.00 80.00 90.00  50223456 li tai man 61.00 90.50 60.00 55.50  50323456 wong tai man 90.00 30.00 50.00 79.50  50423456 ng tai man 62.75 70.00 65.50 48.50  50523456 lau tai man 58.00 62.40 86.55 70.00  50623456 chui tai man 31.00 64.50 46.00 29.50  50723456 lim tai man 86.45 60.00 88.50 89.50  50823456 pok tai man 53.00 35.50 75.50 49.50  50923456 kim tai man 58.25 80.00 36.00 56.50  50023456 tsang tai man 35.50 20.00 55.50 79.00  50713456 lee tai man 26.45 30.00 35.50 30.50  50813456 po tai man 23.00 35.50 25.50 29.50  50913456 yim tai man 18.25 40.00 36.00 26.50  50013456 tse tai man 5.50 20.00 5.50 9.00 | yes |
| 4 | enter 3  enter | studentID:  Invalid student ID  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |
| 5 | enter 3  enter50123456  enter | studentID: 50123456  studentName:  Invalid studentName  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | no |
| 6 | enter 3  studentID: 50913459  studentName: lam tai manCW1mark: 20  testMark: 30  CW2mark: 40  examMark: 50 | Invalid student ID  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |
| 7 | enter 3  studentID: 50123456  studentName: abc  CW1mark: 50  testMark: 50  CW2mark: 50  examMark: 50 | incorrect StudentID or StudentName  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |
| 8 | enter3  studentID: 50913456  studentName: no  CW1mark: 50  testMark: 50  CW2mark: 50  examMark: 50 | incorrect StudentID or StudentName  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |
| 9 | enter3  studentID: 50123456  studentName: lam tai man  CW1mark: 100  testMark: 200  CW2mark: 100  examMark: 100 | Invalid Testmark  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |
| 10 | enter 3  studentID: 50123456  studentName: lam tai man  CW1mark: 50  testMark: 50  CW2mark: 50  examMark: 50 | Stud ID Name CW1 mark Test mark CW2 mark Exam mark CW mark Overall  =====================================================================================  50623456 chui tai man 31.00 64.50 46.00 29.50 46.70 41.54  50923456 kim tai man 58.25 80.00 36.00 56.50 49.25 51.42  50123456 lam tai man 50.00 50.00 50.00 50.00 50.00 50.00  50523456 lau tai man 58.00 62.40 86.55 70.00 76.01 74.21  50713456 lee tai man 26.45 30.00 35.50 30.50 32.59 31.96  50223456 li tai man 61.00 90.50 60.00 55.50 66.30 63.06  50723456 lim tai man 86.45 60.00 88.50 89.50 82.39 84.52  50423456 ng tai man 62.75 70.00 65.50 48.50 65.85 60.64  50813456 po tai man 23.00 35.50 25.50 29.50 27.00 27.75  50823456 pok tai man 53.00 35.50 75.50 49.50 63.00 58.95  50023456 tsang tai man 35.50 20.00 55.50 79.00 44.40 54.78  50013456 tse tai man 5.50 20.00 5.50 9.00 8.40 8.58  50323456 wong tai man 90.00 30.00 50.00 79.50 54.00 61.65  50913456 yim tai man 18.25 40.00 36.00 26.50 33.25 | yes |
| 11 | enter 4 | Stud ID Name CW1 mark Test mark CW2 mark Exam mark CW mark Overall  =====================================================================================  50623456 chui tai man 31.00 64.50 46.00 29.50 46.70 41.54  50923456 kim tai man 58.25 80.00 36.00 56.50 49.25 51.42  50123456 lam tai man 50.00 50.00 50.00 50.00 50.00 50.00  50523456 lau tai man 58.00 62.40 86.55 70.00 76.01 74.21  50713456 lee tai man 26.45 30.00 35.50 30.50 32.59 31.96  50223456 li tai man 61.00 90.50 60.00 55.50 66.30 63.06  50723456 lim tai man 86.45 60.00 88.50 89.50 82.39 84.52  50423456 ng tai man 62.75 70.00 65.50 48.50 65.85 60.64  50813456 po tai man 23.00 35.50 25.50 29.50 27.00 27.75  50823456 pok tai man 53.00 35.50 75.50 49.50 63.00 58.95  50023456 tsang tai man 35.50 20.00 55.50 79.00 44.40 54.78  50013456 tse tai man 5.50 20.00 5.50 9.00 8.40 8.58  50323456 wong tai man 90.00 30.00 50.00 79.50 54.00 61.65  50913456 yim tai man 18.25 40.00 36.00 26.50 33.25 31.22  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |
| 12 | enter 5 | Stud ID Name CW1 mark Test mark CW2 mark Exam mark CW mark Overall  =====================================================================================  50713456 lee tai man 26.45 30.00 35.50 30.50 32.59 31.96  50813456 po tai man 23.00 35.50 25.50 29.50 27.00 27.75  50013456 tse tai man 5.50 20.00 5.50 9.00 8.40 8.58  50913456 yim tai man 18.25 40.00 36.00 26.50 33.25 31.22  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |
| 13 | enter 6 |  | yes |
| 14 | enterQ | End Grade Processing App |  |

markdata1.dat

50123456\_lam tai man\_85.5\_80a.0\_80.0\_90.0

50223456\_li tai man\_61.0\_190.5\_60.0\_55.5

50323456\_\_90.0\_30.0\_50.0\_79.5

5042356\_ng tai man\_62.75\_\_65.5\_48.5

50523456\_lau tai man\_58.0\_62.4\_86.55\_70.0\_12.0

50623456\_chui tai man\_31.0\_64.5\_46.0\_-29.5

50723456\_lim tai man\_86.45\_60.0\_88.5\_89.5

50823456\_pok tai man\_53.0\_35.50\_75.5\_49.5

50923456\_kim tai man\_58.25\_80.0\_36.0\_56.5

50023456\_tsang tai man\_35.5\_20.0\_55.5\_79.0

50023456\_tsang tai man\_35.5\_20.0\_55.5\_79.0

50713456\_lee tai man\_26.45\_30.0\_35.5\_30.5

50813456\_po tai man\_23.0\_35.50\_25.5\_29.5

50913456\_yim tai man\_18.25\_40.0\_36.0\_26.5

50013456\_tse tai man\_5.5\_20.0\_5.5\_9.0

50999999\_chan peter\_80.00\_80.00\_60.0\_80.5

50999999\_chan peter\_80.00\_80.00\_60.0\_80.5

|  |  |  |  |
| --- | --- | --- | --- |
| # | Test data | Expected output | pass |
| 1 |  | 50123456\_lam tai man\_85.5\_80a.0\_80.0\_90.0  50223456\_li tai man\_61.0\_190.5\_60.0\_55.5  50323456\_\_90.0\_30.0\_50.0\_79.5  5042356\_ng tai man\_62.75\_\_65.5\_48.5  50523456\_lau tai man\_58.0\_62.4\_86.55\_70.0\_12.0  50623456\_chui tai man\_31.0\_64.5\_46.0\_-29.5  50723456\_lim tai man\_86.45\_60.0\_88.5\_89.5  50823456\_pok tai man\_53.0\_35.50\_75.5\_49.5  50923456\_kim tai man\_58.25\_80.0\_36.0\_56.5  50023456\_tsang tai man\_35.5\_20.0\_55.5\_79.0  50023456\_tsang tai man\_35.5\_20.0\_55.5\_79.0  50713456\_lee tai man\_26.45\_30.0\_35.5\_30.5  50813456\_po tai man\_23.0\_35.50\_25.5\_29.5  50913456\_yim tai man\_18.25\_40.0\_36.0\_26.5  50013456\_tse tai man\_5.5\_20.0\_5.5\_9.0  50999999\_chan peter\_80.00\_80.00\_60.0\_80.5  50999999\_chan peter\_80.00\_80.00\_60.0\_80.550123456\_lam tai man\_85.5\_80a.0\_80.0\_90.0Invalid Testmark  50223456\_li tai man\_61.0\_190.5\_60.0\_55.5Invalid Testmark  50323456\_\_90.0\_30.0\_50.0\_79.5missing studentName  5042356\_ng tai man\_62.75\_\_65.5\_48.5Invalid Testmark  50523456\_lau tai man\_58.0\_62.4\_86.55\_70.0\_12.0invalid date  50623456\_chui tai man\_31.0\_64.5\_46.0\_-29.5Invalid Exammark  50023456\_tsang tai man\_35.5\_20.0\_55.5\_79.0duplicate date  50999999\_chan peter\_80.00\_80.00\_60.0\_80.5duplicate date  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |
| 2 | enter 2 | Stud ID Name CW1 mark Test mark CW2 mark Exam mark  =================================================================  50723456 lim tai man 86.45 60.00 88.50 89.50  50823456 pok tai man 53.00 35.50 75.50 49.50  50923456 kim tai man 58.25 80.00 36.00 56.50  50023456 tsang tai man 35.50 20.00 55.50 79.00  50713456 lee tai man 26.45 30.00 35.50 30.50  50813456 po tai man 23.00 35.50 25.50 29.50  50913456 yim tai man 18.25 40.00 36.00 26.50  50013456 tse tai man 5.50 20.00 5.50 9.00  50999999 chan peter 80.00 80.00 60.00 80.50  Enter one of the following:  1 to print the contents of input data file  2 to print all valid input data  3 to enter adjustment marks  4 to print all students overall mark  5 to overall mark all students whose mark less than 40  6 to plot distribution of grade  Q to end  Enter 1 to 6 | yes |

markdata2.dat

(empty file)

|  |  |  |  |
| --- | --- | --- | --- |
| # | Test data | Expected output | pass |
| 1 |  | Empty input file | yes |