Ch7

7-1

f1 = open("ex7-1.txt","r")

f2 = open("ex7-1a.txt","w")

n = int(f1.readline())

for i in range(n):

u = int(f1.readline())

v = u\*\*2

print(str(u)+ "\t"+str(v)) #顯示在螢幕

f2.write(str(u)+ "\t"+str(v)+ "\n") #寫入檔案

f1.close()

f2.close()

**ex7-1.txt:**

5

3

2

9

8

1

**Result:**

3 9

2 4

9 81

8 64

1 1

**ex7-1a.txt:**

3 9

2 4

9 81

8 64

1 1

7-2

f1 = open("ex7-2.txt","r")

f2 = open("ex7-2a.txt","w")

n = int(f1.readline())

for i in range(n):

u = int(f1.readline())

v = (u\*\*0.5)\*10

print(str(u)+"\t"+str(v))

f2.write(str(u)+"\t"+str(v)+"\n")

f1.close()

f2.close()

**ex7-2.txt**

3

9

25

10

**Result:**

9 30.0

25 50.0

10 31.622776601683796

**ex7-2a.txt**

9 30.0

25 50.0

10 31.622776601683796

7-3

f1 = open("ex7-3.txt","r") #開啟檔案

f2 = open("ex7-3a.txt","w")

A = [[0 for i in range(5)] for i in range(3)] #宣告3x5陣列

B = [[0 for i in range(3)] for i in range(5)]

def print\_matrix(x,a,b): #印出陣列副程式

for i in range(a):

for j in range(b):

print(str(x[i][j])+"\t",end="")

print("")

#read file into matrix A

i = 0

for line in f1:

line = line.replace("\n","") #將換行符號消去

A[i] = line.split("\t") #以跳格當分界，將數字存入陣列

i += 1

print\_matrix(A,3,5)

print("") #印一個換行

#transposed matrix and write to file

for j in range(5):

s = ""

for i in range(3):

B[j][i] = A[i][j]

s += str(B[j][i])+"\t"

f2.write(s+"\n")

print\_matrix(B,5,3) #顯示置換後結果

f1.close() #關閉檔案

f2.close()

**ex7-3.txt:**

1 2 3 4 5

11 12 13 14 15

100 99 98 97 96

**Result:**

1 2 3 4 5

11 12 13 14 15

100 99 98 97 96

1 11 100

2 12 99

3 13 98

4 14 97

5 15 96

**ex7-3a.txt:**

1 11 100

2 12 99

3 13 98

4 14 97

5 15 96

7-4

f1 = open("ex7-4.txt","r") #開啟檔案

f2 = open("ex7-4a.txt","w")

n = int(f1.readline())

A = [0 for i in range(n)] #宣告陣列

for i in range(n): #讀入檔案

A[i] = int(f1.readline())

print(A[i])

print()

for i in range(n-1,-1,-1): #倒過來寫入檔案

f2.write(str(A[i])+"\n")

print(A[i])

f1.close() #關閉檔案

f2.close()

**ex7-4.txt:**

4

128

77

612

543

**Result:**

128

77

612

543

543

612

77

128

**ex7-4a.txt:**

543

612

77

128