INPUT :

def accept\_array(A):

n = int(input("Enter the total no. of students: "))

for i in range(n):

x = float(input("Enter the first year percentage of student %d :" % (i + 1)))

A.append(x)

print("Array accepted successfully\n\n")

def display\_array(A):

n = len(A)

if n == 0:

print("\nNo records in the database")

else:

print("Array of FE Marks:", end=' ')

for i in range(n):

print("%.2f " % A[i], end=' ')

print("\n")

def partition(A, s, l):

b = s + 1

e = l

while e >= b:

while b <= l and A[s] >= A[b]:

b = b + 1

while A[s] < A[e]:

e = e - 1

if e > b:

A[e], A[b] = A[b], A[e]

A[s], A[e] = A[e], A[s]

return e

def Quicksort(A, s, l):

if s < l:

mid = partition(A, s, l)

Quicksort(A, s, mid - 1)

Quicksort(A, mid + 1, l)

def Main():

A = []

while True:

print("\t1 : Accept & Display the FE Marks")

print("\t2 : Quick sort in ascending order and display top five scores")

print("\t3 : Exit")

ch = int(input("Enter your choice: "))

if ch == 3:

print("End of program")

quit()

elif ch == 1:

A = []

accept\_array(A)

display\_array(A)

elif ch == 2:

print("Marks before sorting")

display\_array(A)

n = len(A)

Quicksort(A, 0, n - 1)

print("Marks after sorting")

display\_array(A)

if n >= 5:

print("Top Five Scores:")

for i in range(n - 1, n - 6, -1):

print("\t%.2f" % A[i])

else:

print("Top Scores:")

for i in range(n - 1, -1, -1):

print("\t%.2f" % A[i])

else:

print("Wrong choice entered!! Try again")

Main()

--------------------------------------------------------------------------------------------------------------------------------------

OUTPUT:

1 : Accept & Display the FE Marks

2 : Qucik sort ascending order and display top five scores

3: Exit

Enter your choice :1

Enter the total no. of student :7

Enter the first year percentage of student 1 :78.5

Enter the first year percentage of student 2 :85.0

Enter the first year percentage of student 3 :92.5

Enter the first year percentage of student 4 :88.0

Enter the first year percentage of student 5 :79.5

Enter the first year percentage of student 6 :91.0

Enter the first year percentage of student 7 :87.0

Array accepted successfully

Array of FE Marks : 78.50 85.00 92.50 88.00 79.50 91.00 87.00

1 : Accept & Display the FE Marks

2 : Qucik sort ascending order and display top five scores

3: Exit

Enter your choice :2

Marks before sorting

Array of FE Marks : 78.50 85.00 92.50 88.00 79.50 91.00 87.00

Marks after sorting

Array of FE Marks : 92.50 91.00 88.00 87.00 85.00 79.50 78.50

Top Five Scores :

92.50

91.00

88.00

87.00

85.00

1 : Accept & Display the FE Marks

2 : Qucik sort ascending order and display top five scores

3: Exit

Enter your choice :3

End of program