Assignment 8.2

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Source Code: TestSample.c

```
#include <stdio.h>
#include <stdlib.h>
const int SCORE_MAXIMUM = 100;



void generateArray(FILE** file, int array[], int size)
{
int i =0;
for(i=0; i< size; i++)
{
fscanf(*file, "%d", &array[i]);
}
}

int compareArray(int key[], int answers[], int size)
{
int misses = 0,i = 0;
for(i = 0; i < size; i++)
if(key[i] != answers[i])
misses++;
return SCORE_MAXIMUM - (SCORE_MAXIMUM/size) * misses;
}
```

```
int main()
{

FILE* fp;
int key[50], answers[50], num_questions;
int frequency[101] = {0};
int studentID, score, numTests=0,i=0;
double average=0,avg=0;
char file_name[10];
char fileText[2],ch;

printf("Enter file name: \n");
fflush(stdout);
scanf("%d");
gets(file_name);
fp = fopen(file_name, "r");
fgets (fileText, 3, fp);
num_questions = atoi(fileText);
generateArray(&fp, key, num_questions);

printf("Student ID    Score\n");
printf("==================\n");

while(EOF!=(ch=fgetc(fp)))
{
fscanf(fp, "%d", &studentID);
generateArray(&fp, answers, num_questions);
score = compareArray(key, answers,num_questions);
frequency[score]++;
```

```
average += score;
printf("%d        %d\n",studentID,score);
numTests++;
}

printf("==================\n");
printf("Tests graded = %d\n",numTests);
printf("==================\n");
printf("Score       Frequency\n");
printf("==================\n");

for(i=100;i>0;i--)
{
if(frequency[i]!=0)
{
printf("%d       %d\n",i,frequency[i]);
}
}
printf("==================\n");
avg = average/numTests;
printf("Class average  = %f\n",avg);
return 0;
}
```

Scantron1.txt

```
20
2 1 1 3 4 4 5 3 2 1 2 4 5 2 1 1 3 4 4 2
```

12345 2 1 1 1 4 4 3 3 2 1 2 4 5 2 2 1 4 4 4 3

23456 2 1 1 2 3 4 5 3 2 1 2 4 5 2 1 2 3 4 4 1

14567 1 2 1 3 4 4 3 3 2 1 2 4 5 2 2 1 4 4 4 2

15678 2 1 2 3 3 4 5 3 1 1 3 4 5 2 1 1 3 4 4 2

16789 2 1 1 3 4 4 5 3 2 1 2 4 5 2 1 1 3 4 4 2

17890 2 1 1 3 4 4 5 3 2 1 2 4 5 2 2 1 4 4 4 3

12245 1 2 1 3 4 4 3 3 2 1 4 4 5 2 2 1 4 4 4 2

12256 2 1 2 3 3 4 5 3 1 1 2 4 5 2 1 1 3 4 4 2

22345 2 1 1 2 3 4 5 3 2 1 2 4 5 2 1 2 3 4 4 1

22456 1 2 1 3 4 4 3 4 2 1 2 4 5 2 2 1 4 4 4 2

13244 2 1 1 3 3 4 5 3 1 1 3 4 5 2 1 1 3 4 4 2

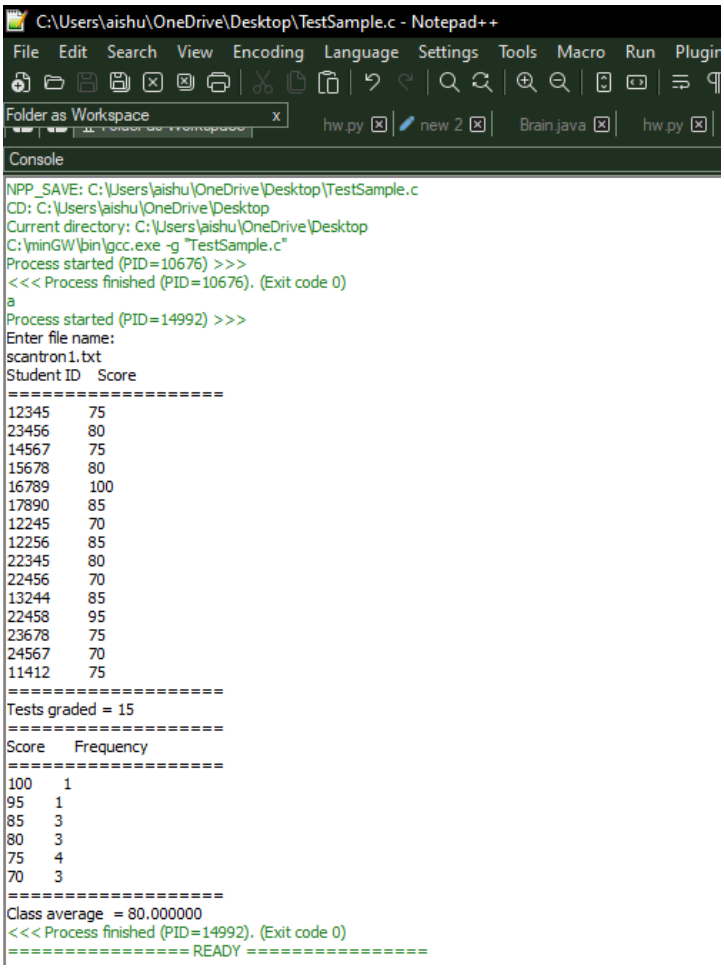
22458 2 2 1 3 4 4 5 3 2 1 2 4 5 2 1 1 3 4 4 2

23678 2 1 3 3 4 4 5 3 2 1 2 4 5 2 2 4 4 4 4 3

24567 2 1 2 3 3 4 5 3 2 1 2 4 5 1 1 2 3 3 4 1

11412 2 1 2 3 3 4 5 3 1 2 2 4 4 2 1 1 3 4 4 2

OUTPUT: IDE Used is Notepad++


C:\Users\aishu\OneDrive\Desktop\TestSample.c - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugin
Folder as Workspace
hw.py
new 2
Brain.java
hw.py
Console
NPP_SAVE: C:\Users\aishu\OneDrive\Desktop\TestSample.c
CD: C:\Users\aishu\OneDrive\Desktop
Current directory: C:\Users\aishu\OneDrive\Desktop
C:\minGW\bin\gcc.exe -g "TestSample.c"
Process started (PID=10676) >>>
<<< Process finished (PID=10676). (Exit code 0)
a
Process started (PID=14992) >>>
Enter file name:
scantron1.txt
Student ID Score
==========
12345 75
23456 80
14567 75
15678 80
16789 100
17890 85
12245 70
12256 85
22345 80
22456 70
13244 85
22458 95
23678 75
24567 70
11412 75
==========
Tests graded = 15
==========
Score Frequency
==========
100 1
95 1
85 3
80 3
75 4
70 3
==========
Class average = 80.000000
<<< Process finished (PID=14992). (Exit code 0)
========== READY ==========