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CSC: 211

Q1)

Num.txt

8

66

62

70

71

71

70

59

59

```
#include <fstream>
#include <iostream>
#include <iomanip>
using namespace std;
// Function Declaration
double averageTemperature(int* numDays, int size);
int main()
{
// defines an input stream for the data file
ifstream dataIn;
int i = 0;
```

```
int size, temperature;
// Opening the input file
dataIn.open("Temperatures.txt");
// checking whether the file name is valid or not
if (dataIn.fail())
{
cout << "** File Not Found **";
return 1;
}
else
{
// Reading the size from the file
dataIn >> size;
// Creating array dynamically
int* numDays = new int[size];
/* Reading the temperatures and populate
* those values into an array
*/
while (dataIn >> temperature)
{
numDays[i] = temperature;
i++;
}
// Closing the intput file
dataIn.close();
// calling the function
```

```
double avg = averageTemperature(numDays, size);

// Displaying the average

cout << "The Average of all Temperatures is " << avg << endl;

}


return 0;

}

// Function which calculates the average

double averageTemperature(int* numDays, int size)

{

double tot = 0.0, avg;

for (int i = 0; i < size; i++)

{

tot += numDays[i];

}

avg = tot / size;

return avg;

}
```

Q2)

Num.txt

66

62

70

71

71

70

59

59

```
#include <iostream>
#include <string>
#include <fstream>
#include <sstream>
using namespace std;
int main( )
{
  ifstream infile;
  cout<<"Loading the file....."<<endl;
  infile.open ("numbers.txt"); //name of file here. plz mention Complete path if file is not at root
  int * Temperature ;
  if (infile.is_open()) //if file opened
  {
        int numDays=0;
        int num;
        while(infile>>num){
              numDays++;
        }
        cout<<"Calculated number of days : "<<numDays;
```

```
        infile>>numDays; //get size of the array
        Temperature = new int[numDays];//create dynamic array
        infile.close(); //close file
        //reopen file
        infile.open ("numbers.txt");
        for(int i=0;i<numDays;i++){
                infile>>num;
                Temperature[i] = num;
        }
        cout<<"\nCalculating the average"<<endl;
        double total=0;
        for(int i=0;i<numDays;i++){
                cout<<Temperature[i]<<endl;
                total += Temperature[i];
        }
        double average = total/numDays;
        cout<<"The average of the numbers is : "<<average<<endl;
        infile.close(); //close file
        cout<<"File scan done........"<<endl;
  }
  else //if file not found show the below message
  {
        cout << "Sorry, we could not find the file." << endl;
  }
  return 0;
}
```

Q3)

```
#include <iostream>
#include <fstream>
using namespace std;
int main() {
ifstream inFile;
 int max = 10;
 // no longer const
 int* a = new int[max];
 // allocated on heap
int n = 0; inFile.open("Text.txt");
 //--- Read into the array
while(!inFile.eof())
{ inFile >> a[n]; n++; if (n >= max)
{ max = max * 2;
 // double the previous size int* temp = new int[max];
 // create new bigger array. for (int i = 0; i < n; i++)
{ temp[i] = a[i];
// copy values to new array.
} delete[] a;
 // free old array memory.
a = temp;
 // now a points to new array.
 } } double total = 0;
for (int i = 0; i < n; i++) { total += a[i]; //copy values to new array
 } cout << "The average Grade is: " << total/n << endl; inFile.close(); delete[] a; a =
NULL; return 0; }
```