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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 input file
    dataIn.close();

    // calling the function

```

```

double avg = averageTemperature(numDays, size);

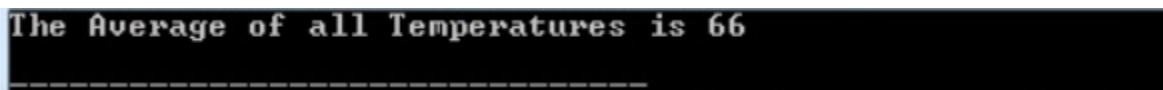
// Displaying the average
cout << "The Average of all Temperatures is " << avg << endl;
}

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;
}

```



```

The Average of all Temperatures is 66
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```

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;

}

```

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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; }
```