```
//NAJIHAH BINTI AZHAN KHAN A24CS0144
//NUR ANISAH SOLEHAH BINTI MOHD HAMIM A24CS0157
//ASSIGNMENT 3
#include <iostream>
#include <fstream>
#include <string>
using namespace std;
const int SIZE=20;
void getInput(string uniName[], int intake[], int enrolment[], int output[], int &count){
        ifstream inputFile("input.txt");
        if(!inputFile){
                cout<<"Error opening input file!"<<endl;
                exit(0);
}

        for(count=0; count<SIZE; count++){
                inputFile>> uniName[count]>> intake[count]>> enrolment[count]>> output[count];
                if(count>SIZE)
                break;
        }
        inputFile.close();
}

int calcTotal(int array[], int SIZE){
        int total= 0;
        for (int i=0; i<SIZE; i++){
                total+=array[i];
        }
return total;
}
```

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int getLowest(int array[], int SIZE){
    int min=0;
    for( int i=1; i<SIZE; i++){
        if(array[i]<array[min])
        min=i;
    }
    return min;
}

int getHighest(int array[], int SIZE){
    int max=0;
    for(int i=1; i<SIZE; i++){
        if(array[i]>array[max])
        max=i;
    }
    return max;
}

int main(){
    string uniName[SIZE];
    int count;
    int intake[SIZE], enrolment[SIZE], output[SIZE];
    int totalIntake, totalEnrolment, totalOutput;
    double averageIntake, averageEnrolment, averageOutput;
    int lowestIntake, lowestEnrolment, lowestOutput;
    int highestIntake, highestEnrolment, highestOutput;
    int rangeIntake, rangeEnrolment, rangeOutput;

    getInput(uniName, intake, enrolment, output, count);
    totalIntake= calcTotal(intake, count);
    totalEnrolment= calcTotal(enrolment, count);
    totalOutput= calcTotal(output, count);

    averageIntake= totalIntake/static_cast<double>(count);
    averageEnrolment=totalEnrolment/static_cast<double>(count);
    averageOutput= totalOutput/static_cast<double>(count);

    lowestIntake= getLowest(intake, count);
    lowestEnrolment= getLowest(enrolment, count);
    lowestOutput= getLowest(output, count);

    highestIntake= getHighest(intake, count);
    highestEnrolment= getHighest(enrolment, count);
    highestOutput= getHighest(output, count);

    rangeIntake= intake[highestIntake]- intake[lowestIntake];
    rangeEnrolment= enrolment[highestEnrolment]- enrolment[lowestEnrolment];
    rangeOutput= output[highestOutput]- output[lowestOutput];

    ofstream outputFile("output.txt");
    if(!outputFile)
        cout<<"Error opening output file!"<<endl;

    outputFile<<"\tNUMBER OF STUDENTS' INTAKE, ENROLMENT AND OUTPUT"<<endl<<"\tIN PUBLIC UNIVERSITIES (2024)"<<endl;
    outputFile<<"--------------------------------------------------------------------------"<<endl;
    outputFile<<"University\tIntake\t\tEnrolment\tOutput"<<endl;
    outputFile<<"--------------------------------------------------------------------------"<<endl;

    for(int i=0; i<count; i++){
```

```
		outputFile<< uniName[i]<<"\t\t"<<intake[i]<<"\t\t"<<enrolment[i]<<"\t\t"<<output[i]<<endl;

	}

	outputFile<<"-----------------------------------------------------------------------"<<endl;

	outputFile<<"TOTAL\t\t"<<totalIntake<<"\t\t"<<totalEnrolment<<"\t\t"<<totalOutput<<endl;

	outputFile<<"AVERAGE\t\t"<<averageIntake<<"\t\t"<<averageEnrolment<<"\t\t"<<averageOutput<<endl;

	outputFile<<"-----------------------------------------------------------------------"	<<endl;


	outputFile<<"THE LOWEST NUMBER OF STUDENTS' INTAKE = "<<intake[lowestIntake]<<"("<<uniName[lowestIntake]<<")"<<endl;

	outputFile<<"THE HIGHEST NUMBER OF STUDENTS' INTAKE = "<<intake[highestIntake]<<"("<<uniName[highestIntake]<<")"<<endl<<endl;


	outputFile<<"THE LOWEST NUMBER OF STUDENTS' ENROLMENT = "<<enrolment[lowestEnrolment]<<"("<<uniName[lowestEnrolment]<<")"<<endl;

	outputFile<<"THE HIGHEST NUMBER OF STUDENTS' ENROLMENT = "<<enrolment[highestEnrolment]<<"("<<uniName[highestEnrolment]<<")"<<endl<<endl;


	outputFile<<"THE LOWEST NUMBER OF STUDENTS' OUTPUT = "<<output[lowestOutput]<<"("<<uniName[lowestOutput]<<")"<<endl;

	outputFile<<"THE HIGHEST NUMBER OF STUDENTS' OUTPUT = "<<output[highestOutput]<<"("<<uniName[highestOutput]<<")"<<endl<<endl;


	outputFile<<"Range of intake = "<<rangeIntake<<endl;

	outputFile<<"Range of enrolment = "<<rangeEnrolment<<endl;

	outputFile<<"Range of output = "<<rangeOutput<<endl;


	outputFile<<"-----------------------------------------------------------------------"<<endl;


	outputFile.close();

	system("notepad output.txt");
```

```
    return 0;
}
```