**INTRODUCTION TO PROGRAMMING**

**BERKELEY CITY COLLEGE**

**Assignment 1**

1. **Information About You**

Excited for creating your first program? Write a program that displays some basic information

about yourself on the console. The basic information may include your name, major, favorite color, favorite food and any information you may want to share about yourself.

Example Output:

My name is Rohullah Najibi

I majored in Computer Science

I am a professor at Berkeley City College

My favorite color is Blue and favorite food is Afghani Mantoo

1. **Distance between two points**

The midpoint between two points (x1, y1) and (x2, y2) on a Cartesian coordinate plane is given by the equation

x = (x1 + x2) / 2 and y = (y1 + y2) / 2

Write a program to calculate the midpoint between any two points (x1, y1) and (x2, y2) specified by the user. Use good programming practices in your program. Use the program to calculate the midpoint between (2, 3) and (8, -5).

Note: you can use the math library by writing #include <cmath> and call sqrt function to the square root of a function. For example, sqrt(16) will produce 4.

1. Write the step-by-step process for the following tasks. No programming required. The steps must be very clear and unambiguous such that it can be understood and carried out by an elementary school child.

* **Searching**

Describe the *algorithm* you use for looking up a person’s telephone number in the phone book. The input is person’s name; the output is the corresponding phone number. No program required.

* **Selection**

Suppose you are given a list of 1000 numbers showing Google employee’s income and your task is to output the 100 people with the highest income. How would you approach this? No program required.

**Submission**: Submit the .cpp file for A and B. For C, write your answer to part C on a word document. Then submit all three files (.cpp for A and B and doc for C) individually on Canvas. I will deduct files if other file types are uploaded.