**Homework 07 ECE2310**

1. a) Write a method ***Search*** that takes input of an numerical array A of size n and a specific value key. It returns the index of the **first** element in A that equals to key, or, returns -1 if none of the elements of A is equal to key.

b) Write a C# console application that reads the scores of 26 students. It then calls the method ***Search*** and displays if there is anyone gets 100%. The display message should look like this:

Students #5 earns 100%.

Students #19 earns 100%.

Students #21 earns 100%.

Or this:

None of the students earn 100%.

1. A) Write a function integerPower(base, exponent) that returns the value of

*base exponent*

For example, integerPower( 3, 4 ) = 3 \* 3 \* 3 \* 3. Assume that exponent is a positive, nonzero integer and that base is an integer. The function integerPower should use for or while to control the calculation. Do not use built-in functions.

B) Write a C# console program that calls the function in A) to calculate and display the value of

1+2+4+8+…+210.

3. Write a Windows Forms application that calculates and prints the take-home pay for a commissioned sales employee. Allow the user to enter values for the name of the employee and the sales amount for the week. Employees receive 7% of the total sales. Federal tax rate is 18%. Retirement contribution is 15%. Social Security tax rate is 9%. Use appropriate constants. Write Input, Display, and Calculate methods. Your final output should display all calculated values, including the total deductions and all defined constants.

