**PAF - Kiet**

**Data Structures**

**Graded Assignment – 1**

**Issue Date : 20 – Oct – 2021 Due Date : 27 – Oct - 2021**

Write a program that counts the number of elements in an array. Fill the array with random elements of length 10.

int[] arr = new int[5];

int count = 0;

Random rand = new Random();

for (int i = 0; i < 5; i++){

Console.Write("{0},",arr[i]=rand.Next(1,50));}

for (int i = 0; i < 5; i++){

count++;}

Console.WriteLine("the length of array is {0}", count);

1. Suppose the binary search algorithm is applied to the array “name” to find the location of Gulsher, the array contains the elements, Akbar, Clark, Danish, Ehsan, Gulsher, Haris, Ibrar, Kahsif, Lubna, Mudassir, Roshan, Sadat, Taimoor, Waqas

int i, j, res = 0;

string temp;

string[] arr = new string[14] { "Akbar", "Clark", "Danish", "Ehsan", "Gulsher", "Haris", "Ibrar", "Kahsif", "Mudassir", "Roshan", "Sadat", "Taimoor", "Waqas" ,"z"};

for (i = 0; i <= 12; i++){

for (j = 0; j <= 12; j++){

res = arr[j].CompareTo(arr[j + 1]);

if (res > 0){

temp = arr[j];

arr[j] = arr[j + 1];

arr[j + 1] = temp;}}}

Console.WriteLine();

int beg = 0, end = arr.Length - 1, mid = 0;

string element = "";

Console.Write("\n\nEnter name to search : ");

element = Console.ReadLine();

while (beg <= end){

mid = (beg + end) / 2;

res = arr[mid].CompareTo(element);

if (res > 0){ end = mid - 1;}

if (res < 0){beg = mid + 1;}

if (res == 0){

Console.WriteLine("\n{0} element found", arr[mid]);

break;}}

if (end < beg){

Console.WriteLine("\n{0} not found", element);}