**QUESTION1: Write a program which uses Iterative Binary Search algorithm to search age of a person using his/her name.**

**Code:**

static void Main(string[] args)

{

string[,] Persons = new string[,] { { "Abbas", "23" }, { "Ali","22"}, {"Syed","18" }, { "Asad","25"}, {"Shah","24" } };

Console.WriteLine("Current array");

Console.WriteLine("Names\tAges");

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

{

for (int j = 0; j < 2; j++)

{

Console.Write(Persons[i,j]+"\t");

}

Console.WriteLine();

}

Console.WriteLine("Enter name of person to get his age");

string Name = Console.ReadLine();

int LB = 0, UB = 5, Mid;

Console.WriteLine("Search result");

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

{

Mid = (UB + LB) / 2;

if (Persons[Mid,0]== Name)

{

Console.WriteLine("Age of "+Persons[Mid,0]+" is "+Persons[Mid,1]);

break;

}

else if (UB != LB)

{

char[] first = Persons[Mid, 0].ToCharArray();

char[] second = Name.ToCharArray();

if (first[0] > second[0])

{

UB = Mid - 1;

}

else if (first[0]<second[0])

{

LB = Mid + 1;

}

if (i == 4)

{

Console.WriteLine("Person does not exist");

}

}

else

{

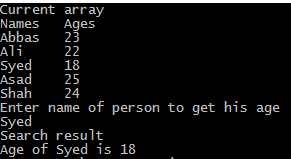
break;

}

}

}

**Output:**



**QUESTION2: Write a program which uses Recursive Binary Search algorithm to search the elements 78 and delete it.   
NUMBERS = [7,12,33,35,49,56,57,60,74,98]**

**Code:**

public static int binarySearch(int[] arr, int lb, int ub, int searchingValue)

{

int mid = (ub + lb) / 2;

if (ub < lb)

{

return 1;

}

else if (arr[mid] > searchingValue)

{

return binarySearch(arr, lb, mid - 1, searchingValue);

}

else if (arr[mid] < searchingValue)

{

return binarySearch(arr, mid + 1, ub, searchingValue);

}

return mid;

}

static int deleteElement(int[] arr, int n, int key1)

{

int pos = binarySearch(arr, 0, n - 1, key1);

if (pos == -1)

{

Console.WriteLine("Element not found");

return n;

}

int i;

for (i = pos; i < n - 1; i++)

arr[i] = arr[i + 1];

return n - 1;

}

static void Main(string[] args)

{

int[] arr = new int[] { 7, 12, 33, 35, 49, 56, 57, 60, 78, 98 };

int lb = 0;

int ub = arr.Length;

Console.WriteLine("Enter the value to be searched and deleted : ");

int searchingValue = Convert.ToInt32(Console.ReadLine());

Console.WriteLine(binarySearch(arr, lb, ub, searchingValue));

Console.WriteLine();

int n = arr.Length;

int i;

Console.Write("Array before deletion:\n");

for (i = 0; i < n; i++)

Console.Write(arr[i] + " ");

n = deleteElement(arr, n, searchingValue);

Console.Write("\n\nArray after deletion:\n");

for (i = 0; i < n; i++)

Console.Write(arr[i] + " ");

**Output:**

