PROJECT PRESENTATION

TITLE : BINARY SEARCH USING RECURSION

TEAM NAME: TEAM 2

TEAMMEMBERS:ABIESH,CHANDRU,BHARATH,
DANSON,ANJANA,DEEPA.

PROJECT OVERVIEW

PROJECT DESCRIPTION:TO FIND THE TARGET ELEMENT IN AN ARRAY

CONCEPTS USED: FUNCTION AND ARRAY OF STRINGS..

STEPS OF THE PROGRAM

- **Initialization** :
- integers(arr[ ] ,low,mid,high ,target) are set up.
- **User Input:**
- The user enters the target element they want to search.
- **Search Execution**:
  - The binarysearch function is called.
- It iterates through the array, and compare with the target element .
- **Decision**:
- If a match is found, the index is returned
- If no match is found, -1 is returned.
- **Output**:
- The program displays whether the target element is found in a index or not

C CODE

```
#include <stdio.h>
int binarySearch(int arr[], int low, int high, int target)
{
    if (low <= high)
    {
        int mid = low + (high - low) / 2;

 if (arr[mid] == target)
            return mid;

if (arr[mid] > target)
            return binarySearch(arr, low, mid - 1, target);

  return binarySearch(arr, mid + 1, high, target);
    }


    return -1;
}
```

```
int main()
{
   int n, target;
   printf("Enter the number of elements in the array: ");
   scanf("%d", &n);
   int arr[n];
   printf("Enter %d elements in sorted order:\n", n);
   for (int i = 0; i < n; i++)
    {
        scanf("%d", &arr[i]);
    }
  printf("Enter the element to search: ");
  scanf("%d", &target);
 int result = binarySearch(arr, 0, n - 1, target);
  if (result != -1)
        printf("Element found at index %d\n", result);
    else
        printf("Element not found\n");

    return 0;
}
```

OUTPUT:

INPUT:

ENTER THE NUMBER OF ELEMENTS IN THE ARRAY:5
ENTER 5 ELEMENTS IN SORTED ORDER:2,4,6,8,9
ENTER THE ELEMENT TO SEARCH:6

OUTPUT:

The element is found at index 2

THANK YOU!!