

## Binary Search

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

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

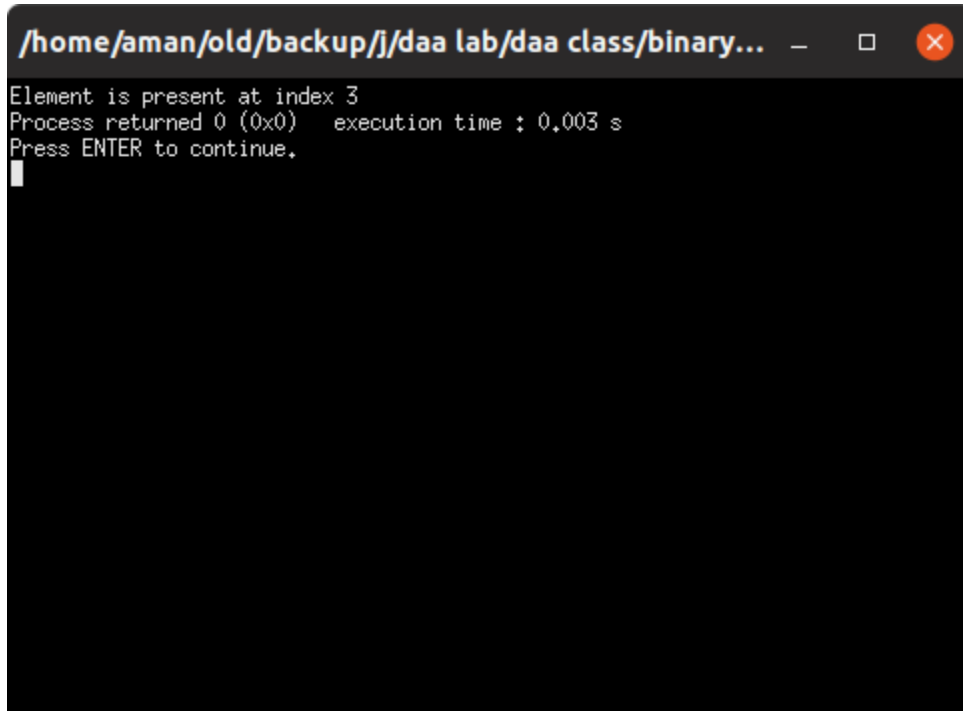
        if (arr[mid] > x)
            return binarySearch(arr, l, mid - 1, x);

        return binarySearch(arr, mid + 1, r, x);
    }

    return -1;
}

int main(void)
{
    int arr[] = { 2, 3, 4, 10, 40 };
    int n = sizeof(arr) / sizeof(arr[0]);
    int x = 10;
    int result = binarySearch(arr, 0, n - 1, x);
    (result == -1) ? printf("Element is not present in array")
                  : printf("Element is present at index %d",
                          result);

    return 0;
}
```

A terminal window with a dark background and light-colored text. The window title is `/home/aman/old/backup/j/daa lab/daa class/binary...`. The output shows the program successfully finding the element 10 at index 3. The execution time is 0.003 seconds. The prompt "Press ENTER to continue." is visible at the bottom.

```
/home/aman/old/backup/j/daa lab/daa class/binary...
Element is present at index 3
Process returned 0 (0x0)   execution time : 0.003 s
Press ENTER to continue.
```