



**SOUTHEAST UNIVERSITY**  
*Meeting the Challenges of Time*

## Department Of CSE

### Cse Assignment

**Assignment No:02**

**Date of submission:**

**Course name : CSE LAB**

**Course code : 241**

**Section : 7**

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**[lecturer, Department of CSE]**

**Initial : YMA**

#### **Code 1:**

```
#include<stdio.h>
```

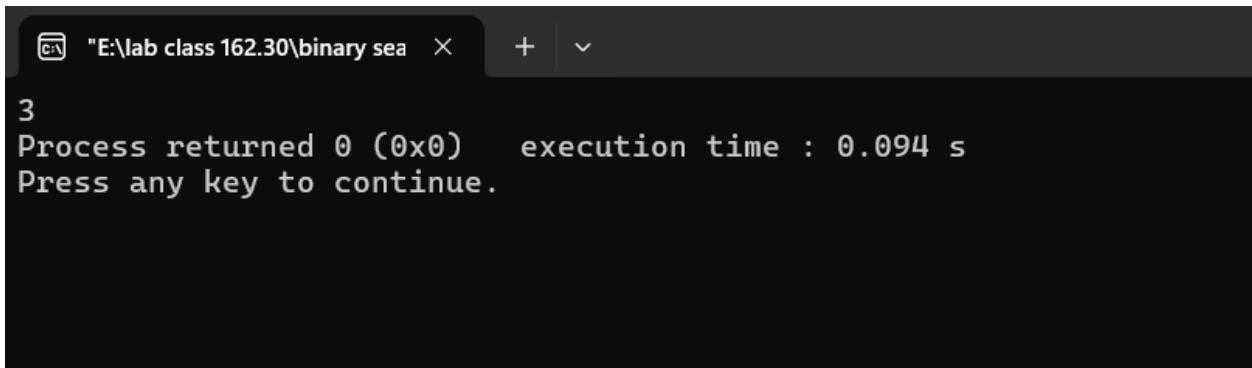
```
int main(){
```

```
    int array[] = {2, 4, 7, 9, 13, 15, 15, 21, 23};
```

```
    int beg = 0, end = 8, key = 9, mid ;
```

```
while(beg <= end){  
    mid = (beg + end) / 2;  
    if (array[mid] == key){  
        printf("%d", mid);  
        break;  
    }  
    if(array[mid] < key ){  
        beg = mid + 1;  
    }  
  
    else{  
        end = mid -1;  
    }  
}  
return 0;  
}
```

### Terminal:



```
"E:\lab class 162.30\binary sea" × + ∨  
3  
Process returned 0 (0x0) execution time : 0.094 s  
Press any key to continue.
```

### **Code 2.1:**

```
#include<stdio.h>

#include<stdlib.h>

int main(){

    int array[] = {7, 3, 4, 2, 9, 21, 15, 23};

    int beg = 0, end = 7, key = 23, mid , temp;

    //bubble sort

    for(int i = 0; i < 7; i++){

        for(int j = 0 ; j < 7 -i -1; j++){

            if(array[j] > array[j+1]){

                temp = array[j];

                array[j] = array[j+1];

                array[j+1] = temp;

            }

        }

    }

    printf("Sorted array in ascending order: ");

    for(int i = 0; i < 8; i++){

        printf("%d ", array[i]);

    }

    printf("\n");

    return 0;

}
```

```

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

```

```

//binary search

```

```

while(beg <= end){
    mid = (beg + end) / 2;
    if (array[mid] == key){
        printf("Tarrgeted Position: %d", mid);
        break;
    }
    if(array[mid] < key ){
        beg = mid + 1;
    }

    else{
        end = mid -1;
    }
}
return 0;
}

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

```

```

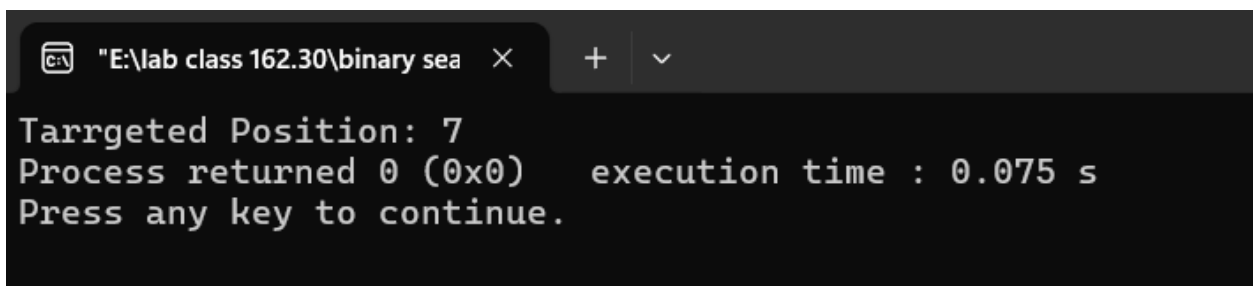
}

//binary search
while(beg <= end){
    mid = (beg + end) / 2;
    if (array[mid] == key){
        printf("Tarrgeted Position: %d", mid);
        break;
    }
    if(array[mid] < key ){
        beg = mid + 1;
    }

    else{
        end = mid -1;
    }
}
return 0;
}

```

### Terminal:



The screenshot shows a Windows terminal window with a dark background. The title bar at the top displays the file path "E:\lab class 162.30\binary sea" and standard window controls. The terminal output consists of three lines: "Tarrgeted Position: 7", "Process returned 0 (0x0) execution time : 0.075 s", and "Press any key to continue.".

```

Tarrgeted Position: 7
Process returned 0 (0x0) execution time : 0.075 s
Press any key to continue.

```

## **Code 2.2:**

```
#include<stdio.h>

#include<stdlib.h>

int main(){

    int array[] = {7, 3, 4, 2, 9, 21, 15, 23};

    int beg = 0, end = 7, key = 23, mid , temp, itar = 0;

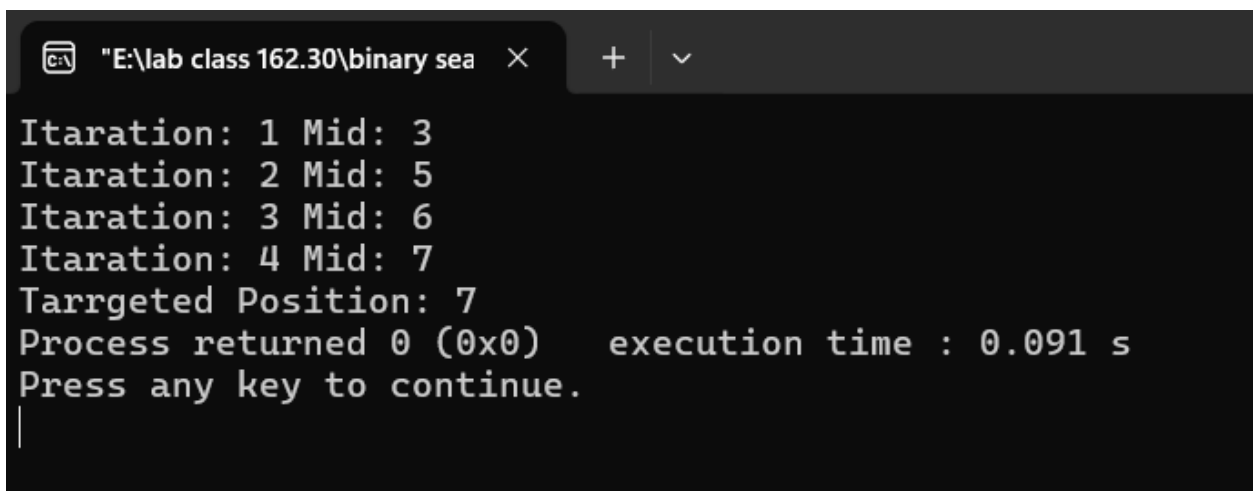
    //bouble sort
    for(int i = 0; i < 7; i++){
        for(int j = 0 ; j < 7 -i -1; j++){

            if(array[j] > array[j+1]){
                temp = array[j];
                array[j] = array[j+1];
                array[j+1] = temp;
            }
        }
    }

    //binary search
    while(beg <= end){
        mid = (beg + end) / 2;
        itar++;
        printf("Iteration: %d ", itar);
        printf("Mid: %d \n", mid);
        if (array[mid] == key){
```

```
        printf("Tarrgeted Position: %d", mid);  
        break;  
    }  
  
    if(array[mid] < key ){  
        beg = mid + 1;  
    }  
  
    else{  
        end = mid -1;  
    }  
}  
return 0;  
}
```

### Terminal:

A terminal window with a dark background and light gray text. The title bar shows a file path "E:\lab class 162.30\binary sea" and standard window controls. The output of the program is displayed in a monospaced font, showing four iterations of a binary search, the target position, and the execution time.

```
"E:\lab class 162.30\binary sea" × + v  
Iteration: 1 Mid: 3  
Iteration: 2 Mid: 5  
Iteration: 3 Mid: 6  
Iteration: 4 Mid: 7  
Tarrgeted Position: 7  
Process returned 0 (0x0)    execution time : 0.091 s  
Press any key to continue.  
|
```