

kadai13

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source131.c

```
#include <stdio.h>
#include "LibPrg131.h"

#define cA 200
const int NOTFOUND = -1;

int main(void){
    int a[cA] = {0,2,3,4,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38};
    int nA = 20; //□□□□
    int key; //□□□□□
    int p; //□□□□

    aOut(a,0,nA);
    printf("key>");
    scanf("%d",&key);
    p = aBinarySearch(a, 0, nA, key);
    if(p==NOTFOUND){
        printf("%d: not found\n",key);
    }else{
        printf("%d: found at %d\n",key,p);
    }

    return 0;
}
```

LibPrg131.c

```
#include <stdio.h>
#include "LibPrg131.h"

int aBinarySearch(int t[],int left,int right,int key){
    const int NOTFOUND = -1;
    int z;
    int c; //□□

    z=NOTFOUND;
    while( left<right){
        c=left+(right-left)/2;
```

```

        if(key<t[c]){
            right=c;
        }else if(key>t[c]){
            left=c+1;
        }else{
            z=c;
            break;
        }
    }

    return z;
}

void aOut(int t[],int left,int right){
    int i;

    printf("[");
    for(i=left;i<right;++i){
        if(i != left){
            printf(",");
        }
        printf("%d",t[i]);
    }
    printf("]\n");
}

```

LibPrg131.h

```

int aBinarySearch(int t[],int left,int right,int key);
void aOut(int t[],int left,int right);

```

□□

```

masuda@DESKTOP-JOV4TPA:~/work/C_intermediate/src/_13$ ./program131.exe
[0,2,3,4,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38]
key>10
10: found at 5
masuda@DESKTOP-JOV4TPA:~/work/C_intermediate/src/_13$ ./program131.exe
[0,2,3,4,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38]
key>21
21: not found

```