

# HAMMAD MURTAZA

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## OS LAB 8

### Q1:

### CODE:

```
#include <stdio.h>

#include <pthread.h>

#define len 20

#define Therad 5

int array[len] = { 1, 5, 7, 10, 12, 14, 15, 18, 20, 22, 25, 27, 30, 64, 110, 220,23,657,43,2 };

int key, i;

int flag = 0;

int count = 0;

void* MySearch(void* arr) {

    int num = count++;

    for (i = num * (len / 5); i < ((num + 1) * (len / 5)); i++){

        if (array[i] == key)

            flag = 1;

    }

}

int main()

{
```

```

    printf("Enter number :");

    scanf("%d",&key);

pthread_t thread[Therad];

for (i = 0; i < Therad; i++) {

    pthread_create(&thread[i], NULL, MySearch, (void*)NULL);

}

for (i = 0; i < Therad; i++) {

    pthread_join(thread[i], NULL);

}

if (flag == 1)

    printf("Key element is found");

else

    printf("Key element is not found");

}

```

## OUTPUT:

The screenshot displays a C++ IDE with the source code on the left and the program's output in a separate window on the right.

**Source Code (lab.cpp):**

```

1  #include <stdio.h>
2  #include <pthread.h>
3  #define len 20
4  #define Therad 5
5  int array[len] = { 1, 5, 7, 10, 12, 14, 15, 18, 20, 22, 25, 27, 30, 34, 110, 230,23,637,43,2 };
6  int key, i;
7  int flag = 0;
8  int count = 0;
9  void* MySearch(void* arr) {
10     int num = count++;
11     for (i = num * (len / 5); i < ((num + 1) * (len / 5)); i++){
12         if (array[i] == key)
13             flag = 1;
14     }
15 }
16 int main()
17 {
18     printf("Enter number :");
19     scanf("%d",&key);
20     pthread_t thread[Therad];
21     for (i = 0; i < Therad; i++) {
22         pthread_create(&thread[i], NULL, MySearch, (void*)NULL);
23     }
24     for (i = 0; i < Therad; i++) {
25         pthread_join(thread[i], NULL);
26     }
27     if (flag == 1)
28         printf("Key element is found");
29     else
30         printf("Key element is not found");
31 }

```

**Output Window:**

```

Enter number :12
Key element is found
-----
Process exited after 4.513 seconds with return value 20
Press any key to continue . . .

```

