	COLLEGE OF COMPUTING AND INFORMATION SCIENCES		
	Lab Task # 10		
Course Title	Operating System	**Total Marks**	05
Date	9-11-21	**Class ID**	108185
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Question 1:

Write a program given a large array of integers, search for a particular integer in it using 5 multi- threads.

Sample Array: 1, 5, 7, 10, 12, 14, 15, 18, 20, 22, 25, 27, 30, 64, 110, 220,23,657,43,2

Thread1:

Sample input: if key = 20

Key element found

Thread2:

Sample Input: if key = 202

Key not present

CODE:

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

int array[50],n,i,key;

void *thread1()
{
        int f=0;
        printf("Please enter your required range: \n");
        scanf("%d",&n);
        for(i=0;i<n;i++)
        {
                printf("Please Enter the number: \n");
                scanf("%d",&array[i]);
        }
        printf("Thread Number 1 \n");
        printf("Enter your key to be found: \n");
        scanf("%d",&key);
        for(i=0;i<n;i++)
        {
                if(array[i] == key)
```

```c
                        f=1;
                }
                if(f == 1)
                {
                        printf("Key element found \n");
                }
                else{
                        printf("Key not present\n");
                }
        }
}
void *thread2()
{
        int f=0;
        printf("Thread Number 2 \n");
        printf("Enter your key to be found: \n");
        scanf("%d",&key);
        for(i=0;i<n; i++)
        {
                if(array[i] == key)
                {
                        f=1;
                }
        }
        if(f == 1)
        {
                printf("Key element found \n");
        }
        else
        {
                printf("Key not present\n");
        }

}

void *thread3()
{
        int f=0;
        printf("Thread Number 3 \n");
        printf("Enter your key to be found: \n");
        scanf("%d",&key);
        for(i=0;i<n;i++)
        {
                if(array[i] == key)
                f=1;
        }
        if(f==1)
        {
                printf("Key element found \n");
        }
        else
        {
                printf("Key not present\n");
        }
```

```c
}
void *thread4()
{
        int f=0;
        printf("Thread Number 4 \n");
        printf("Enter your key to be found: \n");
        scanf("%d",&key);
        for(i=0;i<n;i++)
        {
                if(array[i] == key)
                f=1;
        }
        if(f==1)
        {
                printf("Key element found \n");
        }
        else
        {
                printf("Key not present \n");
        }

}
void *thread5()
{
        int f=0;
        printf("Thread Number 5 \n");
        printf("Enter your key to be found: \n");
        scanf("%d",&key);
        for(i=0;i<n;i++)
        {
                if(array[i] == key)
                f=1;
        }
        if(f==1)
        {
                printf("Key element found \n");
        }
        else
        {
                printf("Key not present\n");
        }

}

int main()
{
        int n,i;
        pthread_t threadno1;
        pthread_t threadno2;
        pthread_t threadno3;
        pthread_t threadno4;
        pthread_t threadno5;
```

```
        n=pthread_create(&threadno1,NULL,&thread1,NULL);
        pthread_join(threadno1,NULL);

        n=pthread_create(&threadno2,NULL,&thread2,NULL);
        pthread_join(threadno2,NULL);

        n=pthread_create(&threadno3,NULL,&thread3,NULL);
        pthread_join(threadno3,NULL);

        n=pthread_create(&threadno4,NULL,&thread4,NULL);
        pthread_join(threadno4,NULL);

        n=pthread_create(&threadno5,NULL,&thread5,NULL);
        pthread_join(threadno5,NULL);
    }
```

OUTPUT: