

## LAB TASK 23K-0842

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

#define ARRAY_SIZE 7
#define NUM_THREADS 3
int arr[ARRAY_SIZE];
int avg;
int min,max;
void *avgarr(void *arg)
{
    int sum=0;
    for(int i=0;i<ARRAY_SIZE;i++)
    {
        sum += arr[i];
    }
    avg =(int)sum/ARRAY_SIZE;
    pthread_exit(0);
}
void *minarr(void *arg)
{
    min=arr[0];
    for(int i=1;i<ARRAY_SIZE;i++)
    {
        if(arr[i] < min)
        {
            min = arr[i];
        }
    }
    pthread_exit(0);
}
void *maxarr(void *arg)
{
    max=arr[0];
    for(int i=1;i<ARRAY_SIZE;i++)
    {
        if(arr[i] > max)
        {
            max = arr[i];
        }
    }
    pthread_exit(0);
}
```

```

43 }
44 int main(int argc, char *argv[])
45 {
46     if(argc!=8)
47     {
48         printf("Usage: %s <arrayelements>", argv[0]);
49         return 1;
50     }
51     for(int i=0;i<7;i++)
52     {
53         arr[i]=atoi(argv[i+1]);
54     }
55     pthread_t workers[3];
56     pthread_create(&workers[0], NULL, avgarr, NULL);
57     pthread_create(&workers[1], NULL, minarr, NULL);
58     pthread_create(&workers[2], NULL, maxarr, NULL);
59     for (int i = 0; i < NUM_THREADS; i++)
60     {
61         pthread_join(workers[i], NULL);
62     }
63
64     printf("Average: %d\n", avg);
65     printf("Min: %d\n", min);
66     printf("Max: %d\n", max);
67     return 0;
68 }
69

```

```

student@VW:~$ gedit multithread.c
student@VW:~$ gcc multithread.c -o out
student@VW:~$ ./out 90 81 78 95 79 72 85
Average: 82
Min: 72
Max: 95

```