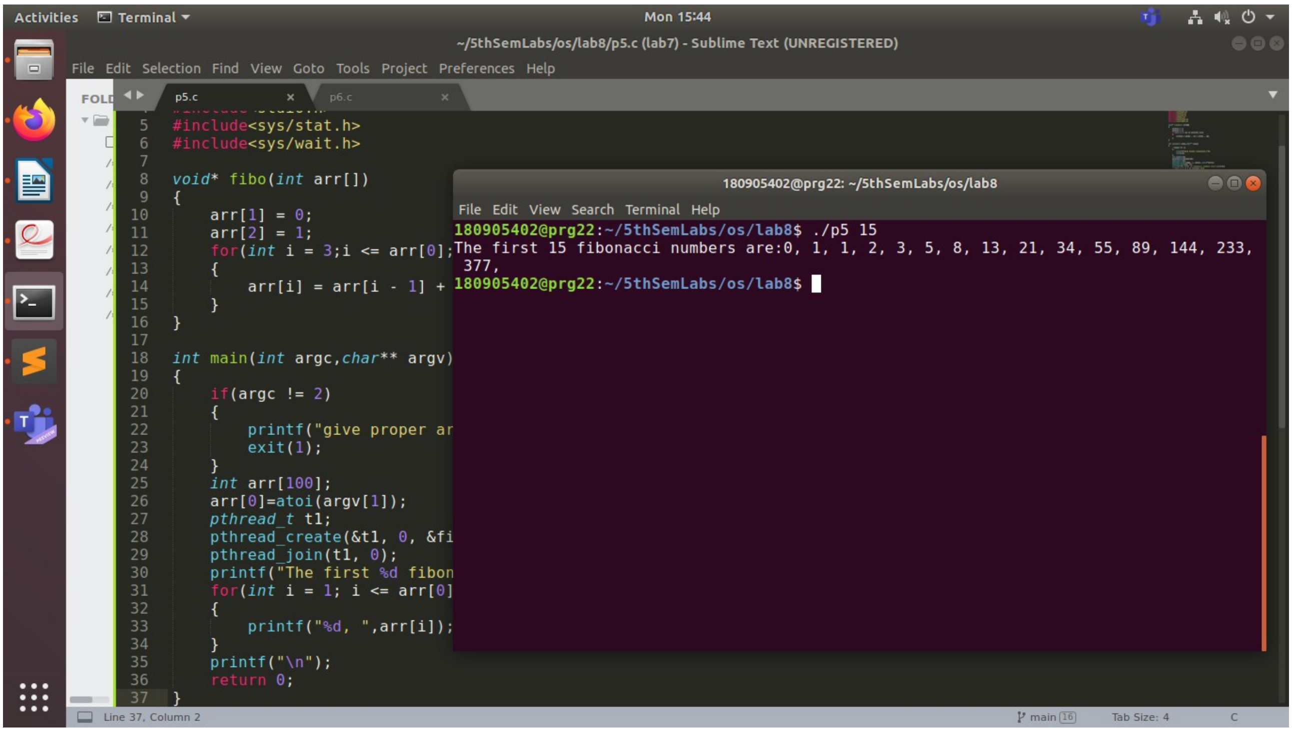
//LAB8

q1)

```
#include<pthread.h>
#include<stdlib.h>
#include<unistd.h>
#include<stdio.h>
#include<sys/stat.h>
#include<sys/wait.h>

void* fibo(int arr[])
{
	arr[1] = 0;
	arr[2] = 1;
	for(int i = 3;i <= arr[0]; i++)
	{
		arr[i] = arr[i - 1] + arr[i - 2];
	}
}

int main(int argc,char** argv)
{
	if(argc != 2)
	{
		printf("give proper arguments\n");
		exit(1);
	}
	int arr[100];
	arr[0]=atoi(argv[1]);
	pthread_t t1;
	pthread_create(&t1, 0, &fibo, (void*)arr);
	pthread_join(t1, 0);
	printf("The first %d fibonacci numbers are:",arr[0]);
	for(int i = 1; i <= arr[0]; i++)
	{
		printf("%d, ",arr[i]);
	}
	printf("\n");
	return 0;
}
```


Activities
Terminal
Mon 15:44
~/5thSemLabs/os/lab8/p5.c (lab7) - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help
FOLD
p5.c
p6.c
180905402@prg22: ~/5thSemLabs/os/lab8
File Edit View Search Terminal Help
Line 37, Column 2
main 16
Tab Size: 4
C

```
#include<sys/stat.h>
#include<sys/wait.h>

void* fibo(int arr[])
{
    arr[1] = 0;
    arr[2] = 1;
    for(int i = 3;i <= arr[0];
    {
        arr[i] = arr[i - 1] +
    }
}

int main(int argc,char** argv)
{
    if(argc != 2)
    {
        printf("give proper ar
        exit(1);
    }
    int arr[100];
    arr[0]=atoi(argv[1]);
    pthread_t t1;
    pthread_create(&t1, 0, &fi
    pthread_join(t1, 0);
    printf("The first %d fibon
    for(int i = 1; i <= arr[0]
    {
        printf("%d, ",arr[i]);
    }
    printf("\n");
    return 0;
}
```

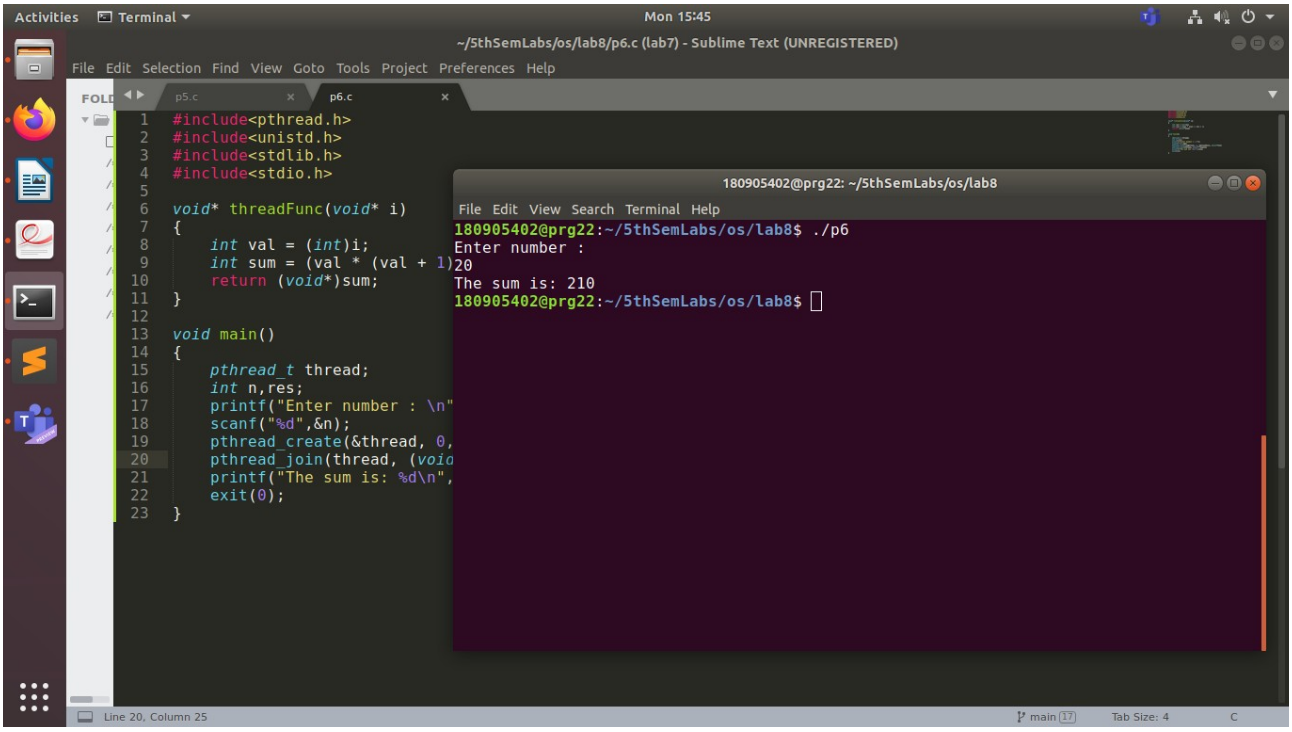
```
180905402@prg22:~/5thSemLabs/os/lab8$ ./p5 15
The first 15 fibonacci numbers are:0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233,
 377,
180905402@prg22:~/5thSemLabs/os/lab8$ 
```

q2)

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

void* threadFunc(void* i)
{
        int val = (int)i;
        int sum = (val * (val + 1)) / 2;
        return (void*)sum;
}

void main()
{
        pthread_t thread;
        int n,res;
        printf("Enter number : \n");
        scanf("%d",&n);
        pthread_create(&thread, 0, &threadFunc, (void*)n);
        pthread_join(thread, (void**)&res);
        printf("The sum is: %d\n",res);
        exit(0);
}
```



Activities
Terminal
Mon 15:45
~/5thSemLabs/os/lab8/p6.c (lab7) - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help
p5.c
p6.c
180905402@prg22: ~/5thSemLabs/os/lab8
File Edit View Search Terminal Help
Line 20, Column 25
main
Tab Size: 4
C

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

void* threadFunc(void* i)
{
    int val = (int)i;
    int sum = (val * (val + 1)
    return (void*)sum;
}

void main()
{
    pthread_t thread;
    int n,res;
    printf("Enter number : \n"
    scanf("%d",&n);
    pthread_create(&thread, 0,
    pthread_join(thread, (void
    printf("The sum is: %d\n",
    exit(0);
}
```

```
180905402@prg22:~/5thSemLabs/os/lab8$ ./p6
Enter number :
20
The sum is: 210
180905402@prg22:~/5thSemLabs/os/lab8$
```

q3)

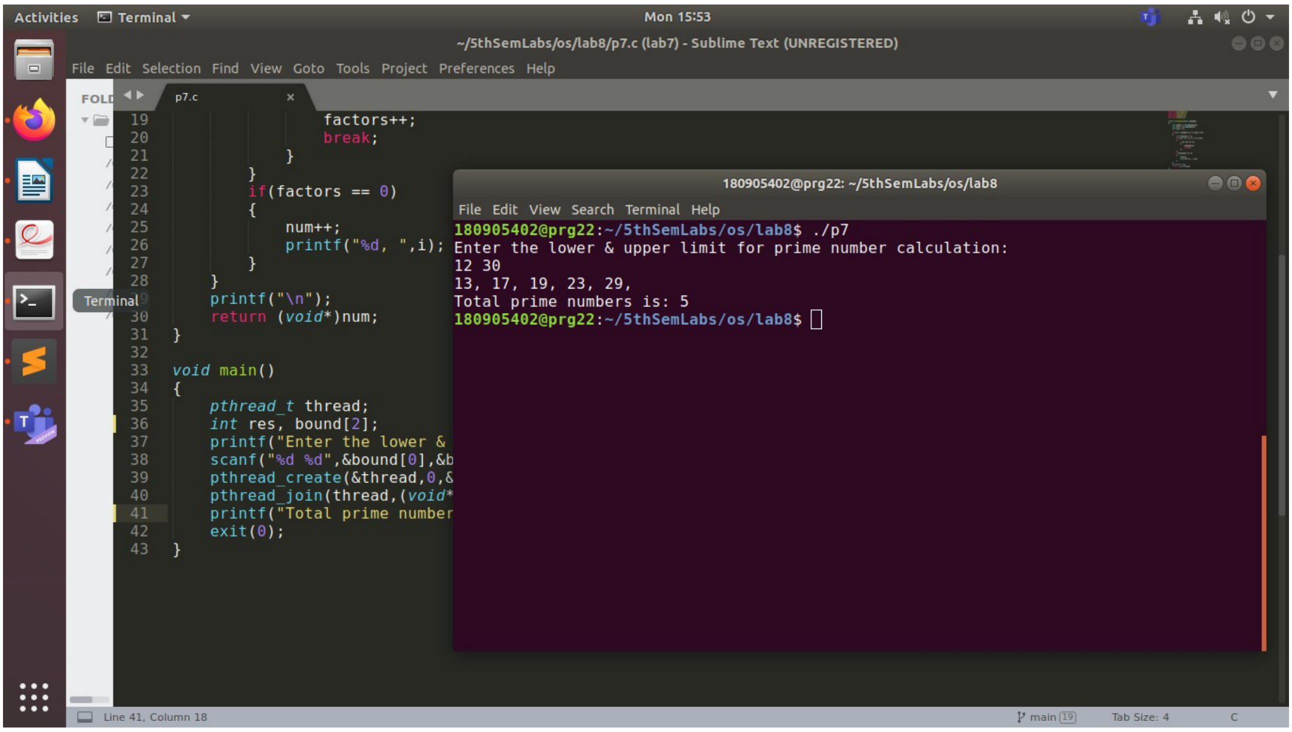
```
#include<pthread.h>
#include<unistd.h>
#include<stdlib.h>
#include<stdio.h>

void* threadFunc(int args[])
{
	int begin = (int)args[0];
	int end = (int)args[1];
	int num = 0;

	for(int i=begin ;i <= end; i++)
	{
		int factors = 0;
		for(int j = 2; j < i; j++)
		{
			if(i % j == 0)
			{
				factors++;
				break;
			}
		}
		if(factors == 0)
		{
			num++;
			printf("%d, ",i);
		}
	}
	printf("\n");
```

```
        return (void*)num;
}

void main()
{
        pthread_t thread;
        int res, bound[2];
        printf("Enter the lower & upper limit for prime number calculation: \n");
        scanf("%d %d",&bound[0],&bound[1]);
        pthread_create(&thread,0,&threadFunc,(void*)bound);
        pthread_join(thread,(void**)&res);
        printf("Total prime numbers is: %d\n",res);
        exit(0);
}
```


Activities
Terminal
Mon 15:53
~/5thSemLabs/os/lab8/p7.c (lab7) - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help
p7.c
180905402@prg22: ~/5thSemLabs/os/lab8
File Edit View Search Terminal Help
Line 41, Column 18
main 19
Tab Size: 4
C

```
                                factors++;
                                break;
                        }
                }
                if(factors == 0)
                {
                        num++;
                        printf("%d, ",i);
                }
        }
        printf("\n");
        return (void*)num;
}

void main()
{
        pthread_t thread;
        int res, bound[2];
        printf("Enter the lower &
        scanf("%d %d",&bound[0],&b
        pthread_create(&thread,0,&
        pthread_join(thread,(void*
        printf("Total prime number
        exit(0);
}
```

```
180905402@prg22:~/5thSemLabs/os/lab8$ ./p7
Enter the lower & upper limit for prime number calculation:
12 30
13, 17, 19, 23, 29,
Total prime numbers is: 5
180905402@prg22:~/5thSemLabs/os/lab8$
```

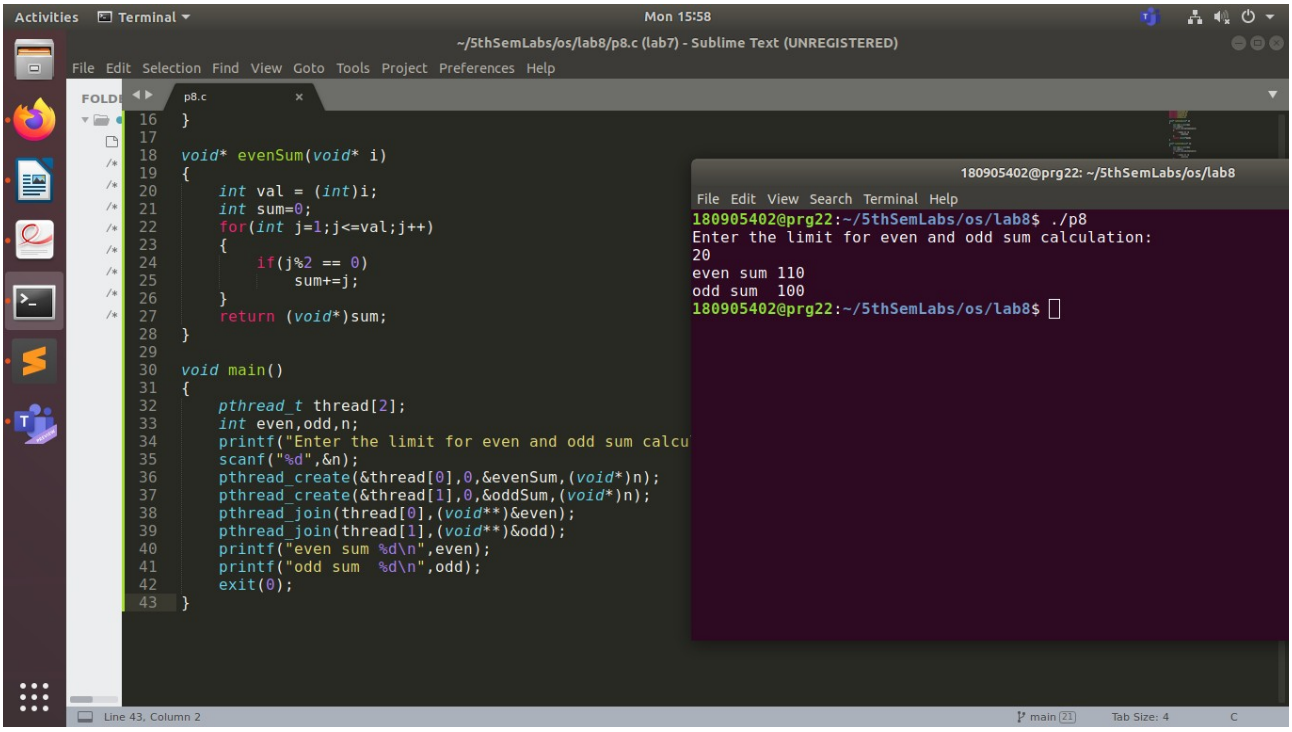
q4)

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

void* oddSum(void* i)
{
        int val = (int)i;
        int sum=0;
        for(int j=1;j<=val;j++)
        {
                if(j%2 == 1)
                        sum+=j;
        }
        return (void*)sum;
}

void* evenSum(void* i)
{
        int val = (int)i;
        int sum=0;
        for(int j=1;j<=val;j++)
        {
                if(j%2 == 0)
                        sum+=j;
        }
        return (void*)sum;
}

void main()
{
        pthread_t thread[2];
        int even,odd,n;
        printf("Enter the limit for even and odd sum calculation: \n");
        scanf("%d",&n);
        pthread_create(&thread[0],0,&evenSum,(void*)n);
        pthread_create(&thread[1],0,&oddSum,(void*)n);
        pthread_join(thread[0],(void**)&even);
        pthread_join(thread[1],(void**)&odd);
        printf("even sum %d\n",even);
        printf("odd sum  %d\n",odd);
        exit(0);
}
```


Activities
Terminal
Mon 15:58
~/5thSemLabs/os/lab8/p8.c (lab7) - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help
FOLD
p8.c
180905402@prg22: ~/5thSemLabs/os/lab8
File Edit View Search Terminal Help
Line 43, Column 2
main
Tab Size: 4
C

```
}

void* evenSum(void* i)
{
    int val = (int)i;
    int sum=0;
    for(int j=1;j<=val;j++)
    {
        if(j%2 == 0)
            sum+=j;
    }
    return (void*)sum;
}

void main()
{
    pthread_t thread[2];
    int even,odd,n;
    printf("Enter the limit for even and odd sum calcu
    scanf("%d",&n);
    pthread_create(&thread[0],0,&evenSum,(void*)n);
    pthread_create(&thread[1],0,&oddSum,(void*)n);
    pthread_join(thread[0],(void**)&even);
    pthread_join(thread[1],(void**)&odd);
    printf("even sum %d\n",even);
    printf("odd sum  %d\n",odd);
    exit(0);
}
```

```
180905402@prg22:~/5thSemLabs/os/lab8$ ./p8
Enter the limit for even and odd sum calculation:
20
even sum 110
odd sum  100
180905402@prg22:~/5thSemLabs/os/lab8$ 
```