Lab 7 (OS) Task

Name = Poorab Gangwani

Class = 4B1

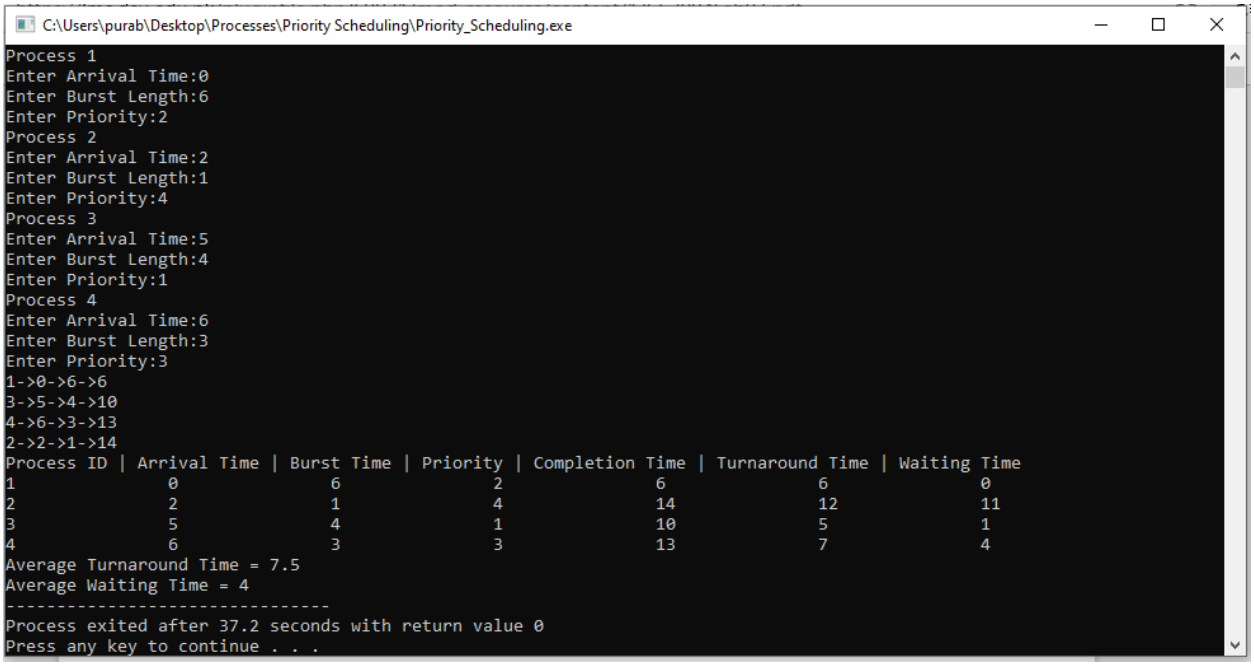
Roll-Number = CS191092

```
#include<iostream>
int main()
{
	int processes[100][100],size,position,time=0;
	int largest_priority=0,breaker=0,value;
	float Avg_turnaround=0,Avg_waitingTime=0;
	bool allow[10];
	std::cout<<"Enter Number of Processes:";
	std::cin>>size;
	for(int i=0;i<size;i++)
	{
		processes[i][0]=i+1;
		std::cout<<"Process "<<i+1<<std::endl;
		std::cout<<"Enter Arrival Time:";
		std::cin>>processes[i][1];
		std::cout<<"Enter Burst Length:";
		std::cin>>processes[i][2];
		std::cout<<"Enter Priority:";
		std::cin>>processes[i][3];
	}
	for(int i=0;i<size;i++)
```

```
	{
		allow[i]=false;
	}
	for(int i=0;i<size;i++)
	{
		if(processes[i][3]>largest_priority)
		{
			value=processes[i][3];
			largest_priority=processes[i][3];
		}
	}
	value+=1;
	while(1)
	{
		largest_priority=value;
		for(int i=0;i<size;i++)
		{
			if(processes[i][1]<=time && allow[i]==false &&
processes[i][3]<largest_priority)
			{
				largest_priority=processes[i][3];
				position=i;
			}
		}
		time+=processes[position][2];
		allow[position]=true;
		std::cout<<processes[position][0]<<"->"<<processes[position][1]<<"-
>"<<processes[position][2]<<"->"<<time<<"\n";
```

```
            for(int i=0;i<size;i++)
            {
                if(allow[i]==true && i==size-1) breaker=1;
                else if(allow[i]==false) break;
            }
            processes[position][4]=time;
            processes[position][5]=processes[position][4]-processes[position][1];
            processes[position][6]=processes[position][5]-processes[position][2];
            if(breaker==1) break;
        }
        std::cout<<"Process ID | Arrival Time | Burst Time | Priority | Completion Time | Turnaround Time | Waiting Time\n";
        for(int i=0;i<size;i++)
        {
            Avg_turnaround+=processes[i][5];
            Avg_waitingTime+=processes[i][6];

        std::cout<<processes[i][0]<<"\t\t"<<processes[i][1]<<"\t\t"<<processes[i][2]<<"\t\t"<<processes[i][3]<<"\t\t"<<processes[i][4]<<"\t\t"<<processes[i][5]<<"\t\t"<<processes[i][6]<<"\n";
        }
        std::cout<<"Average Turnaround Time = "<<Avg_turnaround/size<<std::endl;
        std::cout<<"Average Waiting Time = "<<Avg_waitingTime/size;
}
```


C:\Users\purab\Desktop\Processes\Priority Scheduling\Priority_Scheduling.exe
Process 1
Enter Arrival Time:0
Enter Burst Length:6
Enter Priority:2
Process 2
Enter Arrival Time:2
Enter Burst Length:1
Enter Priority:4
Process 3
Enter Arrival Time:5
Enter Burst Length:4
Enter Priority:1
Process 4
Enter Arrival Time:6
Enter Burst Length:3
Enter Priority:3
1->0->6->6
3->5->4->10
4->6->3->13
2->2->1->14
Process ID | Arrival Time | Burst Time | Priority | Completion Time | Turnaround Time | Waiting Time
1 0 6 2 6 6 0
2 2 1 4 14 12 11
3 5 4 1 10 5 1
4 6 3 3 13 7 4
Average Turnaround Time = 7.5
Average Waiting Time = 4
Process exited after 37.2 seconds with return value 0
Press any key to continue . . .