Experiment No.9
Simulation **of SJF Scheduling Algorithm**

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Section/Group: A
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Subject Name: OS LAB
Subject Code: 21O-20CSP-232

1. Aim/Overview of the practical:

Write Program to calculate Average turnaround time and Average waiting time using SJF Scheduling Algorithm

2. Task to be done:

Write Program to calculate Average turnaround time and Average waiting time using SJF Scheduling Algorithm

3. Apparatus:

- Laptop/PC
- Good internet connection
- C language IDE
- UNIX system

4.Steps for experiment/practical:

1. Sort all the process according to the arrival time.
2. Then select that process which has minimum arrival time and minimum Burst time.
3. After completion of process make a pool of process which after till the completion of previous process and select that process among the pool which is having minimum Burst time

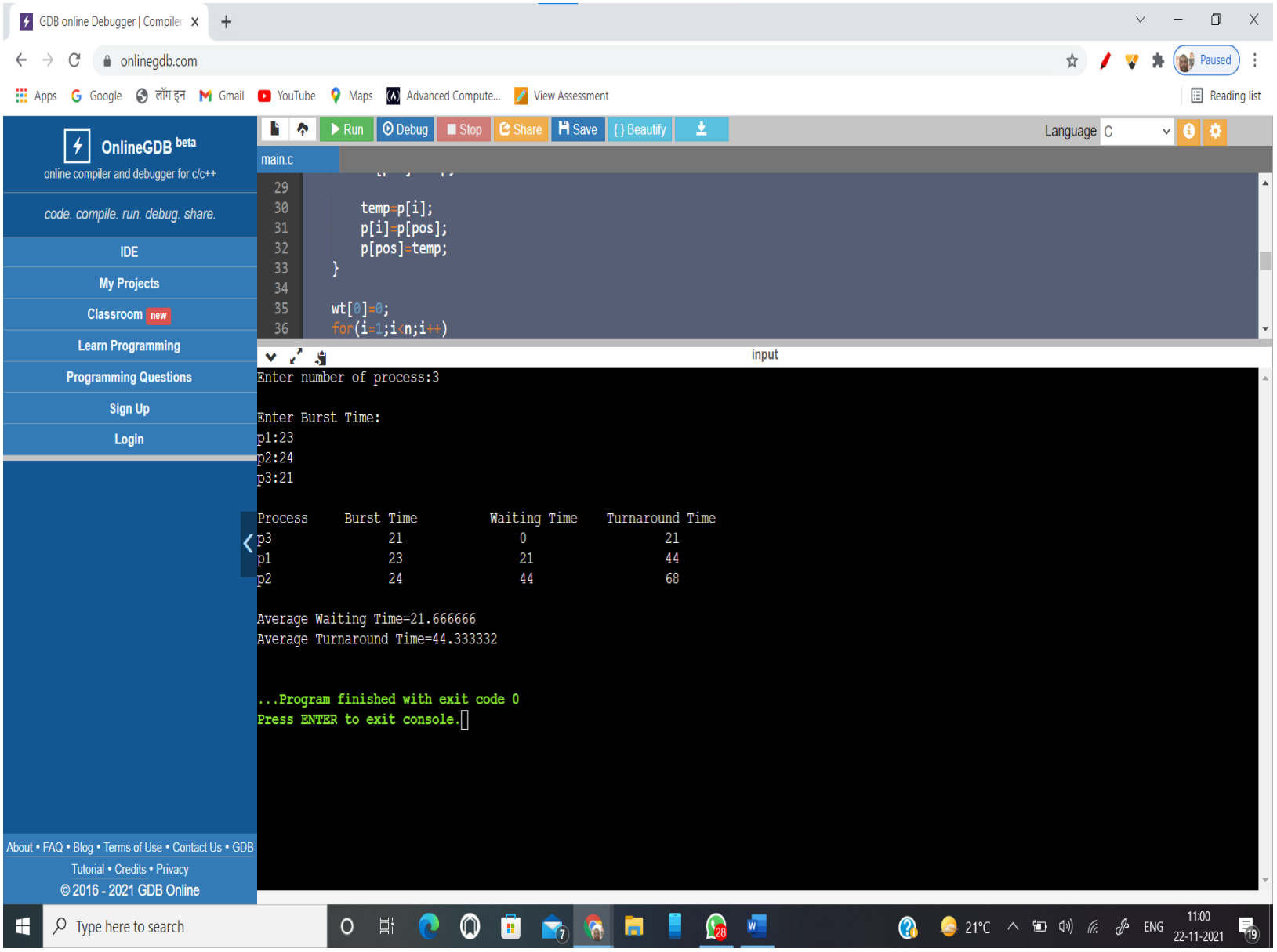
PROGRAM:-

```
#include<stdio.h>

void main()
{
   int bt[20],p[20],wt[20],tat[20],i,j,n,total=0,pos,temp;
   float avg_wt,avg_tat;
   printf("Enter number of process:");
```

```
scanf("%d",&n);

printf("\nEnter Burst Time:\n");
for(i=0;i<n;i++)
{
    printf("p%d:",i+1);
    scanf("%d",&bt[i]);
    p[i]=i+1;
}
for(i=0;i<n;i++)
{
    pos=i;
    for(j=i+1;j<n;j++)
    {
        if(bt[j]<bt[pos])
            pos=j;
    }

    temp=bt[i];
    bt[i]=bt[pos];
    bt[pos]=temp;

    temp=p[i];
    p[i]=p[pos];
    p[pos]=temp;
}

wt[0]=0;
```

```
  for(i=1;i<n;i++)
  {
     wt[i]=0;
     for(j=0;j<i;j++)
        wt[i]+=bt[j];
     total+=wt[i];
  }
  avg_wt=(float)total/n;
  total=0;
  printf("\nProcess\t    Burst Time    \tWaiting Time\tTurnaround Time");
  for(i=0;i<n;i++)
  {
     tat[i]=bt[i]+wt[i];
     total+=tat[i];
     printf("\np%d\t\t  %d\t\t    %d\t\t\t%d",p[i],bt[i],wt[i],tat[i]);
  }
  avg_tat=(float)total/n;
  printf("\n\nAverage Waiting Time=%f",avg_wt);
  printf("\nAverage Turnaround Time=%f\n",avg_tat);
}
```

OUTPUT SCREEN



Learning outcomes (What I have learnt):

1. Learn about how to use different Linux command
2. What is shell programming?
3. UNIX commands.
4. Shell script

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			