Course Code: CSE316 Course Title: Operating System
Report

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https://github.com/Likith4445/Os-Project/blob/master/os1.cpp

Ques. 18. Ten students (a,b,c,d,e,f,g,h,i,j) are going to attend an event. There are lots of gift shops, they all are going to the gift shops and randomly picking the gifts. After picking the gifts they are randomly arriving in the billing counter. The accountant gives the preference to that student who has maximum number of gifts. Create a C or Java program to define order of billed students?

Code:

```
#include<stdio.h>
int main()
{
int bt[20],p[20],wt[20],t[20],i,j,n,total=0,pos,temp;
float avg_wt,avg_t;
printf("Enter number of students:");
scanf("%d",&n);

printf("\nEnter no. of gifts:\n");
for(i=0;i<n;i++)
{
printf("p%d:",i+1);
scanf("%d",&bt[i]);
p[i]=i+1;               //contains process number
}"

//sorting burst time in ascending order using selection sort
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;                //waiting time for first process will be zero

        //calculate waiting time
        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;          //average waiting time
        total=0;

        printf("\nProcess\t       Burst Time       \tWaiting Time\tTurnaround Time");
        for(i=0;i<n;i++)
        {
        t[i]=bt[i]+wt[i];       //calculate turnaround time
        total+=t[i];
        printf("\np%d\t\t    %d\t\t       %d\t\t\t%d",p[i],bt[i],wt[i],t[i]);
        }

        avg_t=(float)total/n;       //average turnaround time
        printf("\n\nAverage Waiting Time=%f",avg_wt);
        printf("\nAverage Turnaround Time=%f\n",avg_t);
}
```

Description:

Proof:

The process which we have used in the project is CPU scheduling and also we have created various loops to calculate average turn around time and average waiting time. The process with the more number of gifts is given the highest priority and the low priority the least.