OPERATING SYSTEM LAB TASK 4

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QUESTION 1:

CODE:

#include <stdio.h>

#include <string.h>

int main()

{

char pid[10][10],t[10];

int at[10],bt[10],st[10],ct[10],wt[10],tat[10],temp,totwt,totat;

int n;

printf("Enter Number of Processes : ");

scanf("%d",&n);

for (int i=0;i<n;i++)

{

printf("Enter Pid,AT and BT: ");

scanf("%s%d%d",pid[i],&at[i],&bt[i]);

}

for (int i=0;i<n;i++)

{

for (int j=0;j<n;j++)

{

if(i==0)

{ for (int k=0;k<n;k++)

{

if(at[i] <at[k])

{

temp = at[i];

at[i] = at[k];

at[k] = temp;

temp = bt[i];

bt[i] = bt[k];

bt[k] = temp;

strcpy(t,pid[i]);

strcpy(pid[i],pid[k]);

strcpy(pid[k],t);

}

}

}

else if(at[i] <bt[j] && bt[i] <bt[j])

{

temp = at[i];

at[i] = at[j];

at[j] = temp;

temp = bt[i];

bt[i] = bt[j];

bt[j] = temp;

strcpy(t,pid[i]);

strcpy(pid[i],pid[j]);

strcpy(pid[j],t);

}

}

}

for (int i=0;i<n;i++)

{

if(i==0)

{

st[i] = at[i];

}

else

{

st[i] = ct[i-1];

}

ct[i] = st[i] + bt[i];

wt[i] = st[i] - at[i];

tat[i] = ct[i] - at[i];

totwt += wt[i];

totat += tat[i];

}

printf("PID\tAT\tBT\tST\tCT\tWT\tTAT\n");

for (int i=0;i<n;i++)

{

printf("%s\t%d\t%d\t%d\t%d\t%d\t%d\n",pid[i],at[i],bt[i],st[i],ct[i],wt[i],tat[i]);

}

printf("Average Waiting Time: %f\n",(float)totwt/n);

printf("Average Turnarount Time: %f\n",(float)totat/n);

return 0;

}A screenshot of a computer

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