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//solution for question 13
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#include<stdio.h>

int main()
{
    int i, limit, total = 0, x, counter = 0, time_quantum,j;

    int wait_time = 0, turnaround_time = 0,pos,z,p[10],prio[10],
a_time[10], b_time[10], temp[10],b;

    float average_wait_time, average_turnaround_time;

    printf("\nEnter Total Number of Processes:");

    scanf("%d", &limit);

    x = limit;
    for(i = 0; i < limit; i++)
    {
        p[i]=i+1;

        prio[i]=0;
        printf("\nEnter total Details of Process[%d]\n", i + 1);
        printf("Arrival Time:\t");
        scanf("%d", &a_time[i]);
        printf("Burst Time:\t");
        scanf("%d", &b_time[i]);
        temp[i] = b_time[i];
    }

    printf("\nEnter the Time Quantum:");
    scanf("%d", &time_quantum);
    printf("\nProcess ID\t\tBurst Time\t Turnaround Time\t Waiting
Time\t Priority\n");
    for(total = 0, i = 0; x != 0;)
    {

        for(z=0;z<limit;z++)
        {
            int temp1;
            pos=z;
            for(j=z+1;j<limit;j++)
            {
                if(prio[j]<prio[pos])
                    pos=j;
            }

            temp1=prio[z];

            prio[z]=prio[pos];

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prio[pos]=templ;

        templ=b_time[z];
        b_time[z]=b_time[pos];
        b_time[pos]=templ;
        templ=a_time[z];
        a_time[z]=a_time[pos];
        a_time[pos]=templ;

        templ=p[z];
        p[z]=p[pos];
        p[pos]=templ;

        templ=temp[z];
        temp[z]=temp[pos];
        temp[pos]=templ;
    }

{
    if(temp[i] <= time_quantum && temp[i] > 0)
{
    total = total + temp[i];
    temp[i] = 0;
    counter = 1;
}

    else if(temp[i] > 0)
{
    temp[i] = temp[i] - time_quantum;
    total = total + time_quantum;
}

for(b=0;b<limit;b++)
{
    if(b==i)
        prio[b]+=1;
    else
        prio[b]+=2;
}

if(temp[i] == 0 && counter == 1)
{
    x--;
    printf("\nProcess[%d]\t\t%d\t\t %d\t\t %d\t\t%d", p[i],
b_time[i], total - a_time[i], total - a_time[i] - b_time[i],prio[i]);
    wait_time = wait_time + total - a_time[i] - b_time[i];
    turnaround_time = turnaround_time + total - a_time[i];
    counter = 0;
}
if(i == limit - 1)
{
    i = 0;
}

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    }  
    else if(a_time[i + 1] <= total)  
    {  
        i++;  
    }  
    else  
    {  
        i = 0;  
    }  
}  
return 0;  
}
```