OPERATING SYSTEM - CS23431

EXP 6(B)

SHORTEST JOB FIRST

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PROGRAM:

#include <stdio.h>

int main() {

int n, totalwt = 0, totaltat = 0;

printf("Enter number of processes: \n"); scanf("%d", &n);

int p[n], at[n], bt[n], ct[n], tat[n], wt[n];

printf("Enter process numbers: \n");

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

scanf("%d", &p[i]);

}

printf("Enter arrival times: \n"); for (int i = 0; i < n; i++) {

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

}

printf("Enter burst times: \n"); for (int i = 0; i < n; i++) {

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

}

int temp; for (int i = 0; i < n - 1; i++) { for (int j = i + 1; j < n; j++) {

if ((bt[j] < bt[i]) || (bt[j] == bt[i] && at[j] < at[i])) { temp = at[i]; at[i] = at[j];

at[j] = temp;

temp = bt[i]; bt[i] = bt[j];

bt[j] = temp;

temp = p[i]; p[i] = p[j]; p[j] = temp;

}

}

}

ct[0] = at[0] + bt[0]; for (int i = 1; i < n; i++) { if (at[i] > ct[i - 1]) { ct[i] = at[i] + bt[i];

} else {

ct[i] = ct[i - 1] + bt[i];

}

}

for (int i = 0; i < n; i++) { tat[i] = ct[i] - at[i];

totaltat += tat[i];

wt[i] = tat[i] - bt[i];

totalwt += wt[i];

}

printf("P\tAT\tBT\tCT\tTAT\tWT\n"); for (int i = 0; i < n; i++) {

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

}

printf("Average waiting time: %.1f\n", (float)(totalwt) / n); printf("Average turnaround time: %.1f\n", (float)(totaltat) / n);

return 0;

}

OUTPUT:

