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OS Lab 02

Implement the Round Robin code and paste the output below.

```
#include <stdio.h> int main() {  int n = 3;
int bt[] = {2, 6, 4};  int rem_bt[] = {2, 6, 4};
int wt[3], tat[3];  int quantum = 3, time =
0;  float wtavg = 0, tatavg = 0;  int done;
do {  done = 1;
  for (int i = 0; i < n; i++) {  if (rem_bt[i] > 0) {
done = 0;  if (rem_bt[i] > quantum) {
time += quantum;  rem_bt[i] -= quantum;
} else {  time += rem_bt[i];  wt[i] =
time - bt[i];  rem_bt[i] = 0;  }
  }  }  } while
(!done);
  for (int i = 0; i < n; i++) {  tat[i] = bt[i] +
wt[i];  wtavg += wt[i];  tatavg +=
tat[i];  }  wtavg /= n;  tatavg /= n;
  printf("Process\tBurst Time\tWaiting Time\tTurnaround Time\n");  for (int i = 0; i < n; i++) {
    printf("P%d\t%d\t\t%d\t\t%d\n", i, bt[i], wt[i], tat[i]);  }
  printf("Average Waiting Time: %.2f\n", wtavg);  printf("Average
Turnaround Time: %.2f\n", tatavg);  return 0; }
```

Terminal

```
Process Burst Time      Waiting Time    Turnaround Time
P0      2               0               2
P1      6               5               11
P2      4               8               12
Average Waiting Time: 4.33
Average Turnaround Time: 8.33
```

Implement the Priority Based Scheduling code and paste the output below.

```
#include <stdio.h> int
main() {
  int n = 3;  int bt[] = {2, 6, 4};  int pri[] = {3, 1, 2};
int wt[3], tat[3], p[3] = {0, 1, 2};  float wtavg = 0,
tatavg = 0;
  for (int i = 0; i < n - 1; i++) {  for (int j = i + 1; j < n;
j++) {  if (pri[i] > pri[j]) {  int temp =
pri[i];  pri[i] = pri[j];  pri[j] = temp;
```

```
            temp = bt[i];              bt[i] =
bt[j];              bt[j] = temp;
            temp = p[i];               p[i] = p[j];
p[j] = temp;          }
      }
  }     wt[0] = 0;    tat[0] = bt[0];    for (int i = 1; i < n;
i++) {       wt[i] = wt[i - 1] + bt[i - 1];       tat[i] =
wt[i] + bt[i];    }
  for (int i = 0; i < n; i++) {       wtavg +=
wt[i];       tatavg += tat[i];    }    wtavg /= n;
tatavg /= n;
  printf("Process\tPriority\tBurst Time\tWaiting Time\tTurnaround Time\n");    for (int i = 0; i < n; i++) {
     printf("P%d\t%d\t\t%d\t\t%d\t\t%d\n", p[i], pri[i], bt[i], wt[i], tat[i]);
  }
  printf("Average Waiting Time: %.2f\n", wtavg);    printf("Average
Turnaround Time: %.2f\n", tatavg);     return 0; }
```

Terminal

```
Process Priority        Burst Time      Waiting Time    Turnaround Time
P1      1               6               0               6
P2      2               4               6               10
P0      3               2               10              12
Average Waiting Time: 5.33
Average Turnaround Time: 9.33
```