```cpp
#include <iostream>
#include <algorithm>
using namespace std;

// Assignment 1: Priority Scheduling (Non-Preemptive)
void priority_scheduling() {
    const int n = 5;
    int pid[n] = {1, 2, 3, 4, 5};
    int bt[n]  = {10, 1, 2, 1, 5};
    int pr[n]  = {3, 1, 4, 5, 2};
    int wt[n], tat[n];
    int index[n];

    for (int i = 0; i < n; i++) index[i] = i;

    // Sort processes by priority (lower value = higher priority)
    for (int i = 0; i < n-1; i++) {
        for (int j = i+1; j < n; j++) {
            if (pr[index[i]] > pr[index[j]]) {
                swap(index[i], index[j]);
            }
        }
    }

    wt[index[0]] = 0;
    for (int i = 1; i < n; i++) {
        wt[index[i]] = wt[index[i-1]] + bt[index[i-1]];
    }

    double total_wt = 0, total_tat = 0;
    cout << "\n--- Priority Scheduling (Non-Preemptive) ---\n";
    cout << "PID\tBT\tPriority\tWT\tTAT\n";

    for (int i = 0; i < n; i++) {
        tat[i] = wt[i] + bt[i];
        total_wt += wt[i];
        total_tat += tat[i];
        cout << pid[i] << "\t" << bt[i] << "\t" << pr[i] << "\t\t" << wt[i] << "\t" << tat[i] << "\n";
    }

    cout << "Average Waiting Time: " << total_wt / n << "\n";
    cout << "Average Turnaround Time: " << total_tat / n << "\n";
}

// Assignment 2: Round Robin Scheduling
void round_robin() {
    const int n = 3;
    int pid[n] = {1, 2, 3};
    int bt[n]  = {24, 13, 9};
    int rem_bt[n];
    int wt[n] = {0}, tat[n] = {0};
    int tq = 4;
    int time = 0;

    for (int i = 0; i < n; i++) rem_bt[i] = bt[i];

    while (true) {

```

```
        bool done = true;
        for (int i = 0; i < n; i++) {
            if (rem_bt[i] > 0) {
                done = false;
                if (rem_bt[i] > tq) {
                    time += tq;
                    rem_bt[i] -= tq;
                } else {
                    time += rem_bt[i];
                    wt[i] = time - bt[i];
                    rem_bt[i] = 0;
                    tat[i] = wt[i] + bt[i];
                }
            }
        }
        if (done) break;
    }

    double total_wt = 0, total_tat = 0;
    cout << "\n--- Round Robin Scheduling (Time Quantum = 4) ---\n";
    cout << "PID\tBT\tWT\tTAT\n";

    for (int i = 0; i < n; i++) {
        total_wt += wt[i];
        total_tat += tat[i];
        cout << pid[i] << "\t" << bt[i] << "\t" << wt[i] << "\t" << tat[i] << "\n";
    }

    cout << "Average Waiting Time: " << total_wt / n << "\n";
    cout << "Average Turnaround Time: " << total_tat / n << "\n";
}

int main() {
    priority_scheduling();
    round_robin();
    return 0;
}
```