Code:

// Write a program to implement SJF(with arrival time=0 for all) Calculate waiting time, turnaround time for each process. Calculate avg. waiting time, avg turnaround time

```
#include <bits/stdc++.h>
using namespace std;

struct Process {

  int pid;
  int bt;
  int wt;
  int tat;
};

bool compare(Process P1, Process P2) { return P1.bt < P2.bt; }

void findWatingTime(Process processes[], int n) {
  sort(processes, processes + n, compare);
  processes[0].wt = 0;
  for (int i = 1; i <= n; i++) {
    processes[i].wt = processes[i - 1].bt + processes[i - 1].bt;
  }
}

void findTurnaroundTime(Process processes[], int n) {
  for (int i = 0; i < n; i++)
    processes[i].tat = processes[i].bt + processes[i].wt;
}

void findAvgTime(Process processes[], int n) {

  int awt = 0, atat = 0;

  findWatingTime(processes, n);
  findTurnaroundTime(processes, n);
  cout << endl;
  cout << "Process\t\tBurst-Time\tWaiting-Time\tTurnAround-Time\n";
  for (int i = 0; i < n; i++) {
    cout << i + 1 << "\t\t\t" << processes[i].bt << "\t\t\t" << processes[i].wt
         << "\t\t\t\t" << processes[i].tat << endl;
    awt += processes[i].wt;
    atat += processes[i].tat;
  }
  cout << "\nAverage Waiting Time: " << (float)awt / (float)n << endl;
  cout << "\nAverage Turn-Around Time: " << (float)atat / (float)n << endl;
}
```

```
int main() {

  int n;
  cout << "Enter the number of processes: ";
  cin >> n;

  Process processes[n];

  cout << "\nEnter the process burst time: " << endl;
  for (int i = 0; i < n; i++) {
    cout << "P[" << i + 1 << "] : ";
    cin >> processes[i].bt;
  }

  findAvgTime(processes, n);
}
```

Sample Output:

```
Enter the number of processes: 5

Enter the process burst time:
P[1] : 10
P[2] : 1
P[3] : 2
P[4] : 1
P[5] : 5

Process                 Burst-Time      Waiting-Time   TurnAround-Time
1                       1                       0                       1
2                       1                       2                       3
3                       2                       2                       4
4                       5                       4                       9
5                       10                      10                      20

Average Waiting Time: 3.6

Average Turn-Around Time: 7.4
```