

Code for SJF Scheduling :-

Function to find the waiting time for all processes

```
def findWaitingTime(processes, n, wt):
```

```
    rt = [0] * n
```

```
    # Copy the burst time into rt[]
```

```
    for i in range(n):
```

```
        rt[i] = processes[i][1]
```

```
    complete = 0
```

```
    t = 0
```

```
    minm = 999999999
```

```
    short = 0
```

```
    check = False
```

```
    # Process until all processes gets completed
```

```
    while (complete != n):
```

```
        # Find process with minimum remaining time among the processes that arrives till
        # the current time`
```

```
        for j in range(n):
```

```
            if ((processes[j][2] <= t) and
```

```
                (rt[j] < minm) and rt[j] > 0):
```

```
                minm = rt[j]
```

```
                short = j
```

```
                check = True
```

```
        if (check == False):
```

```
            t += 1
```

```
            continue
```

```
        # Reduce remaining time by one
```

```
        rt[short] -= 1
```

```
        # Update minimum
```

```
        minm = rt[short]
```

```
        if (minm == 0):
```

```
            minm = 999999999
```

```
        # If a process gets completely executed
```

```
        if (rt[short] == 0):
```

```
            # Increment complete
```

```
            complete += 1
```

```
            check = False
```

```
        # Find finish time of current process
```

```
        fint = t + 1
```

```
        # Calculate waiting time
```

```
        wt[short] = (fint - processes[short][1] - processes[short][2])
```

```
        if (wt[short] < 0):
            wt[short] = 0
```

```
    # Increment time
    t += 1
```

```
# Function to calculate turn around time
```

```
def findTurnAroundTime(processes, n, wt, tat):
```

```
    # Calculating turnaround time
    for i in range(n):
        tat[i] = processes[i][1] + wt[i]
```

```
# Function to calculate average waiting and turn-around times.
```

```
def findavgTime(processes, n):
```

```
    wt = [0] * n
    tat = [0] * n
```

```
    # Function to find waiting time of all processes
```

```
    findWaitingTime(processes, n, wt)
```

```
    # Function to find turn around time for all processes
```

```
    findTurnAroundTime(processes, n, wt, tat)
```

```
    # Display processes along with all details
```

```
    print("Processes Burst Time  Waiting", "Time  Turn-Around Time")
```

```
    total_wt = 0
```

```
    total_tat = 0
```

```
    for i in range(n):
```

```
        total_wt = total_wt + wt[i]
```

```
        total_tat = total_tat + tat[i]
```

```
        print(" ", processes[i][0], "\t\t", processes[i][1], "\t\t", wt[i], "\t\t", tat[i])
```

```
    print("\nAverage waiting time = %.5f"%(total_wt /n) )
```

```
    print("Average turn around time = ", total_tat / n)
```

```
# Driver code
```

```
if __name__ == "__main__":
```

```
    # Process id's
```

```
    proc = [[1, 6, 1], [2, 8, 1], [3, 7, 2], [4, 3, 3]]
```

```
    n = 4
```

```
    findavgTime(proc, n)
```