

## Code for Round Robin Scheduling :-

# Python3 program for implementation of RR scheduling

# Function to find the waiting time for all processes

def findWaitingTime(processes, n, bt, wt, quantum):

    rem\_bt = [0] \* n

    # Copy the burst time into rt[]

    for i in range(n):

        rem\_bt[i] = bt[i]

    t = 0 # Current time

    # Keep traversing processes in round robin manner until all of them are not done.

    while(1):

        done = True

        # Traverse all processes one by one repeatedly

        for i in range(n):

            # If burst time of a process is greater than 0 then only need to process further

            if (rem\_bt[i] > 0) :

                done = False # There is a pending process

                if (rem\_bt[i] > quantum) :

                    # Increase the value of t i.e. shows how much time a process has  
                    # been processed

                    t += quantum

                    # Decrease the burst\_time of current

                    # process by quantum

                    rem\_bt[i] -= quantum

            # If burst time is smaller than or equal to quantum. Last cycle for this process

            else:

                # Increase the value of t i.e. shows how much time

                # a process has been processed

                t = t + rem\_bt[i]

                # Waiting time is current time minus time used

                # by this process

                wt[i] = t - bt[i]

                # As the process gets fully executed

                # make its remaining burst time = 0

                rem\_bt[i] = 0

        # If all processes are done

        if (done == True):

break

# Function to calculate turn around time

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

# Calculating turnaround time

for i in range(n):

tat[i] = bt[i] + wt[i]

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

def findavgTime(processes, n, bt, quantum):

wt = [0] \* n

tat = [0] \* n

# Function to find waiting time of all processes

findWaitingTime(processes, n, bt, wt, quantum)

# Function to find turn around time for all processes

findTurnAroundTime(processes, n, bt, 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(" ", i + 1, "\t\t", bt[i], "\t\t", wt[i], "\t\t", tat[i])

print("\nAverage waiting time = %.5f"%(total\_wt /n) )

print("Average turn around time = %.5f"%(total\_tat / n))

# Driver code

if \_\_name\_\_ == "\_\_main\_\_":

# Process id's

proc = [1, 2, 3]

n = 3

# Burst time of all processes

burst\_time = [10, 5, 8]

# Time quantum

quantum = 2;

findavgTime(proc, n, burst\_time, quantum)