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Assignment No.: 9

A screenshot of a computer program

Description automatically generated**Q.1 Write a Program to implement SJF Non Preemptive Algorithm.**

**#BASH CODE**

#!/bin/bash

# Define the number of processes

echo -n "Enter the number of processes: "

read n

# Initialize arrays to store process arrival times and burst times

declare -a arrival

declare -a burst

declare -a completion

declare -a process

# Input process arrival times and burst times

for ((i=0; i<n; i++))

do

echo -n "Enter arrival time for Process $((i+1)): "

read arrival[$i]

echo -n "Enter burst time for Process $((i+1)): "

read burst[$i]

process[$i]=$i

done

# Sort processes based on their burst times (SJF)

for ((i=0; i<n-1; i++))

do

for ((j=0; j<n-i-1; j++))

do

if ((burst[j] > burst[j+1]))

then

# Swap burst times

temp=${burst[j]}

burst[j]=${burst[j+1]}

burst[j+1]=$temp

# Swap process IDs

temp=${process[j]}

process[j]=${process[j+1]}

process[j+1]=$temp

fi

done

done

# Calculate completion times

completion[0]=${arrival[0]} # The first process completes when it arrives

for ((i=1; i<n; i++))

do

completion[$i]=$((completion[i-1] + burst[i]))

done

# Display the completion times for each process

echo "Process Arrival Time Burst Time Completion Time"

for ((i=0; i<n; i++))

do

echo " P${process[i]+1} ${arrival[process[i]]} ${burst[process[i]]} ${completion[i]}"

done