Exp No: 8 **Date: 25/09/2024**

CLOUD SIMULATION

IMPLEMENT ROUND ROBIN TASK SCHEDULING IN BOTH TIME SHARED AND SPACE SHARED CPU ASSIGNMENT

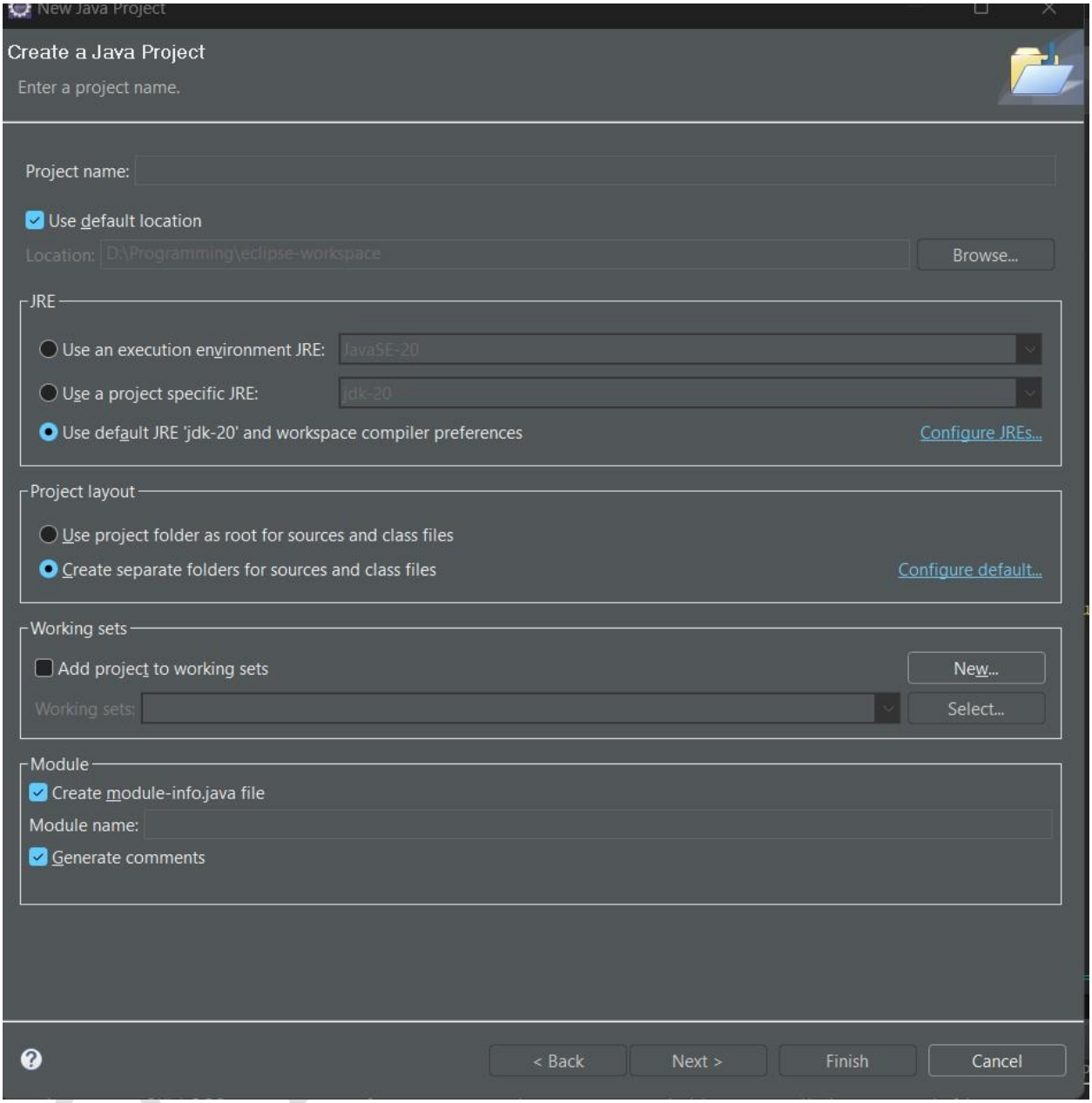
AIM:

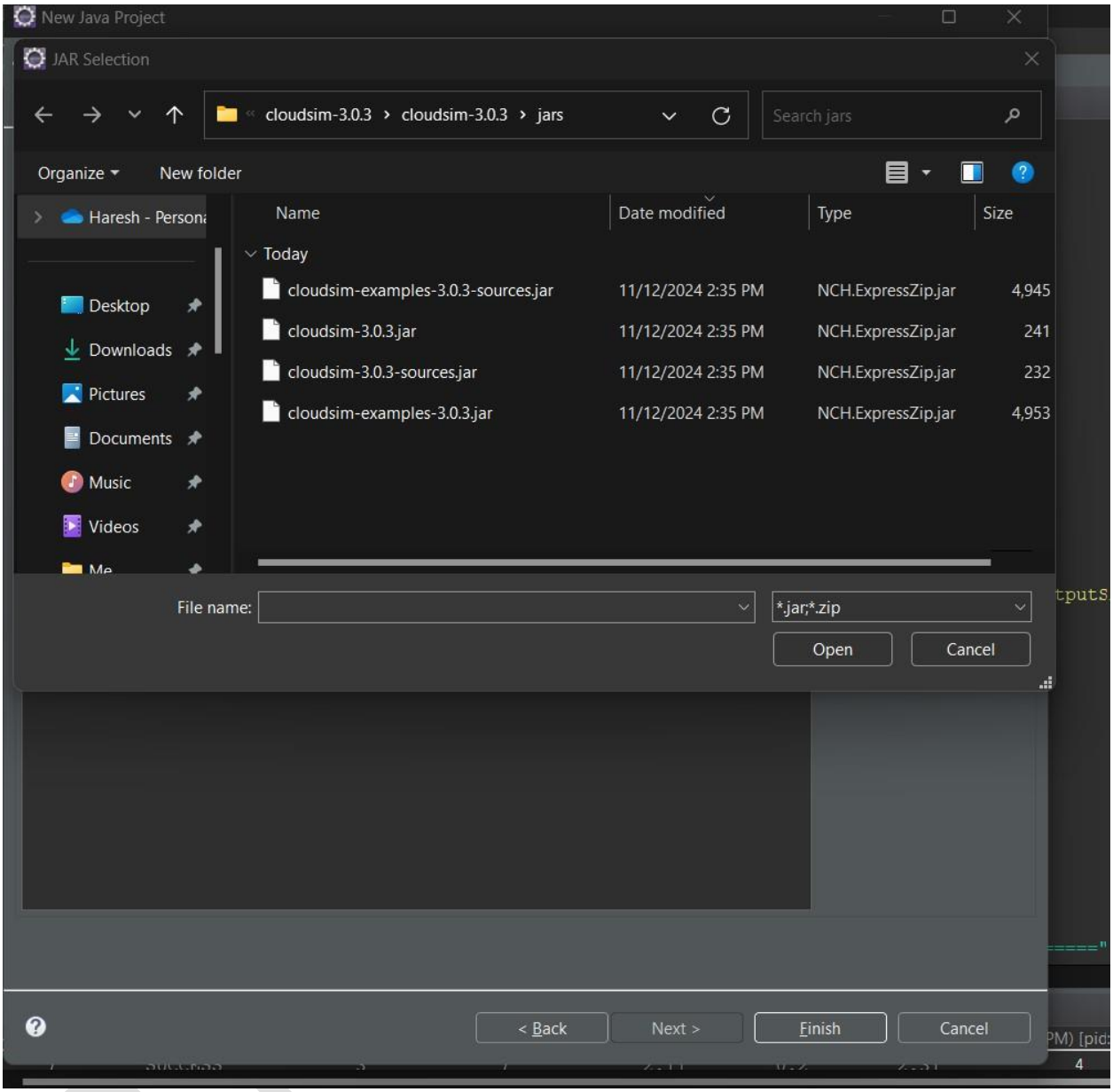
Implement Round Robin task scheduling in both Timeshared and Space Shared CPU assignments.

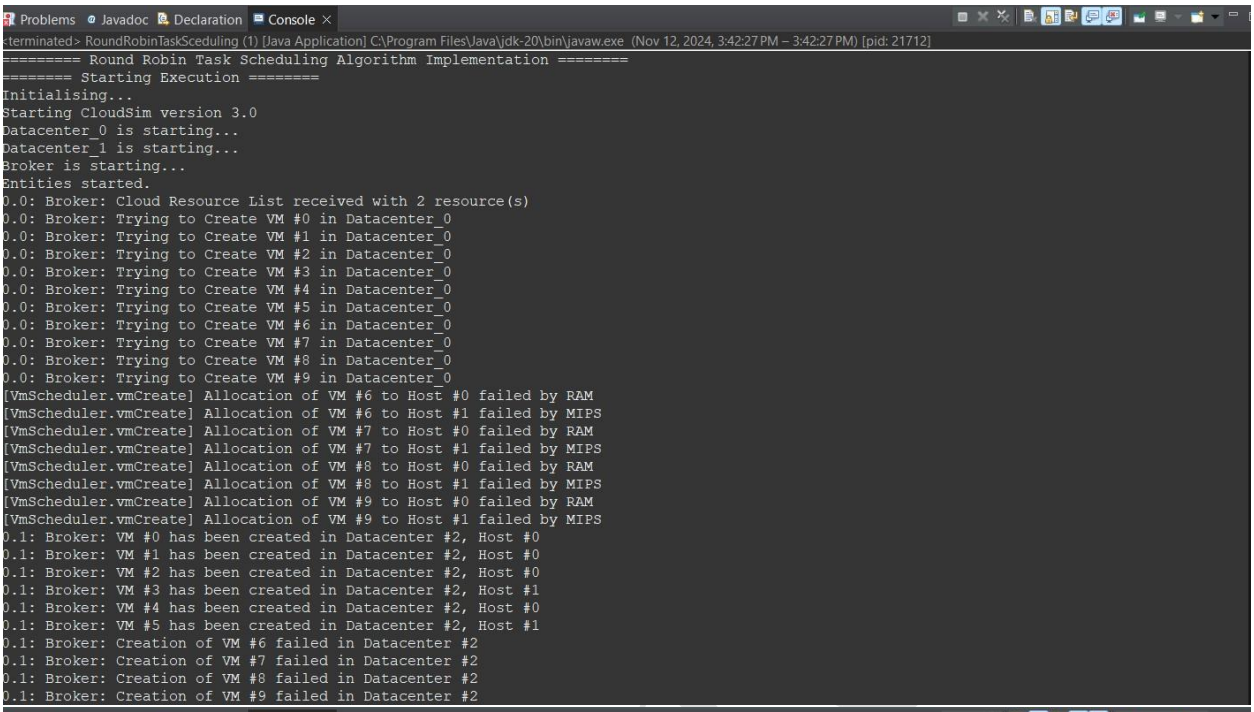
PROCEDURE:

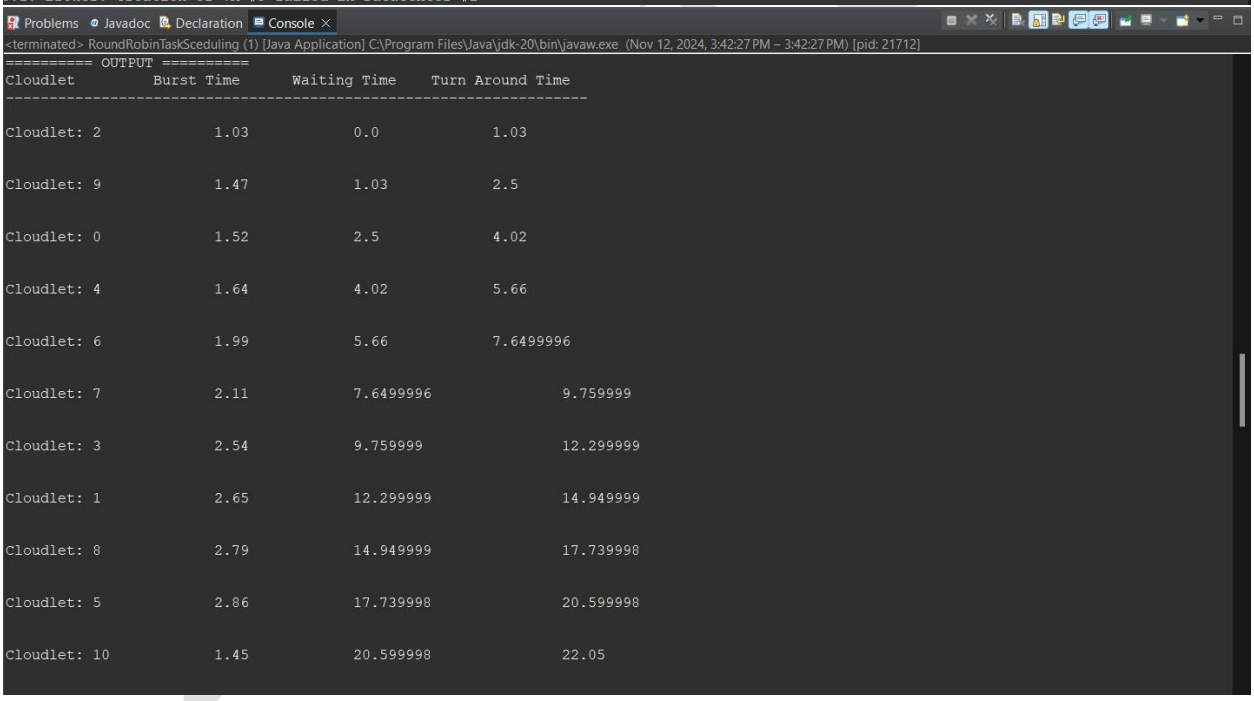
1. Create a new project by selecting java console line application template and JDK 18.
2. Open project settings from the file menu of the options window.
3. Navigate to project dependencies and select on add external jars and then click on 'Browse' to open the path where you have unzipped the Cloud Sim Jars and click on apply.
4. Create a java file with the cloud Sim code to implement the round robin scheduling algorithm.
5. Run the application as a java file to see the output in the console below.

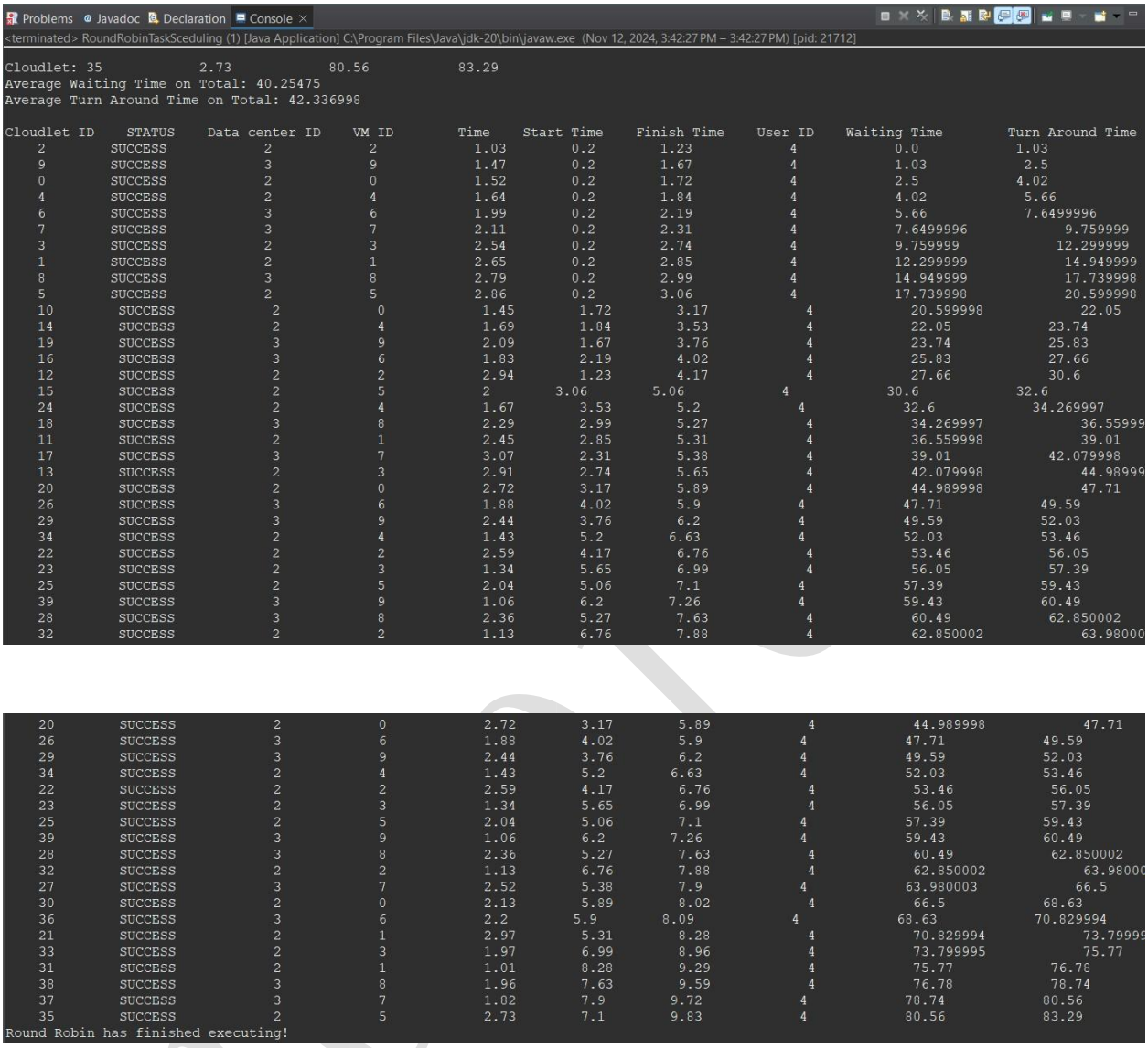
OUTPUT:


New Java Project
Create a Java Project
Enter a project name.
Project name:
Use default location
Location: D:\Programming\eclipse-workspace
Browse...
JRE
Use an execution environment JRE: JavaSE-20
Use a project specific JRE: jdk-20
Use default JRE 'jdk-20' and workspace compiler preferences
Configure JREs...
Project layout
Use project folder as root for sources and class files
Create separate folders for sources and class files
Configure default...
Working sets
Add project to working sets
New...
Working sets:
Select...
Module
Create module-info.java file
Module name:
Generate comments
< Back
Next >
Finish
Cancel


New Java Project
JAR Selection
cloudsim-3.0.3 › cloudsim-3.0.3 › jars
Search jars
Organize
New folder
Haresh - Persona
Desktop
Downloads
Pictures
Documents
Music
Videos
Name
Date modified
Type
Size
Today
cloudsim-examples-3.0.3-sources.jar 11/12/2024 2:35 PM NCH.ExpressZip.jar 4,945
cloudsim-3.0.3.jar 11/12/2024 2:35 PM NCH.ExpressZip.jar 241
cloudsim-3.0.3-sources.jar 11/12/2024 2:35 PM NCH.ExpressZip.jar 232
cloudsim-examples-3.0.3.jar 11/12/2024 2:35 PM NCH.ExpressZip.jar 4,953
File name:
.jar;.zip
Open
Cancel
< Back
Next >
Finish
Cancel


Problems Javadoc Declaration Console
<terminated> RoundRobinTaskSceduling (1) [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Nov 12, 2024, 3:42:27 PM – 3:42:27 PM) [pid: 21712]
========== Round Robin Task Scheduling Algorithm Implementation ========
======== Starting Execution ========
Initialising...
Starting CloudSim version 3.0
Datacenter_0 is starting...
Datacenter_1 is starting...
Broker is starting...
Entities started.
0.0: Broker: Cloud Resource List received with 2 resource(s)
0.0: Broker: Trying to Create VM #0 in Datacenter_0
0.0: Broker: Trying to Create VM #1 in Datacenter_0
0.0: Broker: Trying to Create VM #2 in Datacenter_0
0.0: Broker: Trying to Create VM #3 in Datacenter_0
0.0: Broker: Trying to Create VM #4 in Datacenter_0
0.0: Broker: Trying to Create VM #5 in Datacenter_0
0.0: Broker: Trying to Create VM #6 in Datacenter_0
0.0: Broker: Trying to Create VM #7 in Datacenter_0
0.0: Broker: Trying to Create VM #8 in Datacenter_0
0.0: Broker: Trying to Create VM #9 in Datacenter_0
[VmScheduler.vmCreate] Allocation of VM #6 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #6 to Host #1 failed by MIPS
[VmScheduler.vmCreate] Allocation of VM #7 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #7 to Host #1 failed by MIPS
[VmScheduler.vmCreate] Allocation of VM #8 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #8 to Host #1 failed by MIPS
[VmScheduler.vmCreate] Allocation of VM #9 to Host #0 failed by RAM
[VmScheduler.vmCreate] Allocation of VM #9 to Host #1 failed by MIPS
0.1: Broker: VM #0 has been created in Datacenter #2, Host #0
0.1: Broker: VM #1 has been created in Datacenter #2, Host #0
0.1: Broker: VM #2 has been created in Datacenter #2, Host #0
0.1: Broker: VM #3 has been created in Datacenter #2, Host #1
0.1: Broker: VM #4 has been created in Datacenter #2, Host #0
0.1: Broker: VM #5 has been created in Datacenter #2, Host #1
0.1: Broker: Creation of VM #6 failed in Datacenter #2
0.1: Broker: Creation of VM #7 failed in Datacenter #2
0.1: Broker: Creation of VM #8 failed in Datacenter #2
0.1: Broker: Creation of VM #9 failed in Datacenter #2


Problems Javadoc Declaration Console
<terminated> RoundRobinTaskSceduling (1) [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (Nov 12, 2024, 3:42:27 PM – 3:42:27 PM) [pid: 21712]
========== OUTPUT ==========
Cloudlet Burst Time Waiting Time Turn Around Time
Cloudlet: 2 1.03 0.0 1.03
Cloudlet: 9 1.47 1.03 2.5
Cloudlet: 0 1.52 2.5 4.02
Cloudlet: 4 1.64 4.02 5.66
Cloudlet: 6 1.99 5.66 7.6499996
Cloudlet: 7 2.11 7.6499996 9.759999
Cloudlet: 3 2.54 9.759999 12.299999
Cloudlet: 1 2.65 12.299999 14.949999
Cloudlet: 8 2.79 14.949999 17.739998
Cloudlet: 5 2.86 17.739998 20.599998
Cloudlet: 10 1.45 20.599998 22.05



RESULT:

Round Robin task scheduling in both Timeshared and Space Shared CPU assignments has been successfully implemented.