

Output

Ring.java

```
C:\Windows\System32\cmd.exe

C:\Users\amina\DS Assign\src\Ring>java Ring
Enter the number of processes: 5
Enter ID of process 1:1
Enter ID of process 2:2
Enter ID of process 3:3
Enter ID of process 4:4
Enter ID of process 5:5

[0]1
[1]2
[2]3
[3]4
[4]5

Process 5 selected as coordinator

1. Election
2. Exit
1
Enter the process number that initializes the election: 3
Process 4 sends message to process 1
Process 1 sends message to process 2
Process 2 sends message to process 3
Process 3 sends message to process 4
Process 3 selected as coordinator

1. Election
2. Exit
2
Exiting...

C:\Users\amina\DS Assign\src\Ring>
```

Bully.java

```
C:\Windows\System32\cmd.exe

C:\Users\amina\DS Assign\src>java Bully

+-----Current System Status-----+
| P1:    Active
| P2:    Active
| P3:    Active
| P4:    Active
| P5:    Active <-- Coordinator
+-----+

+-----MENU-----+
| 1. Activate Process |
| 2. Inactivate Process |
| 3. Send Message |
| 4. Exit |
+-----+
2
Inactivate Process: 4

+-----Current System Status-----+
| P1:    Active
| P2:    Active
| P3:    Active
| P4:    Inactive
| P5:    Active <-- Coordinator
+-----+

+-----MENU-----+
| 1. Activate Process |
| 2. Inactivate Process |
| 3. Send Message |
| 4. Exit |
+-----+
2
Inactivate Process: 5
```

C:\> Select Command Prompt

```
+-----Current System Status-----+
| P1:    Active
| P2:    Active
| P3:    Active <-- Coordinator
| P4:    Inactive
| P5:    Inactive
+-----+
+-----MENU-----+
| 1. Activate Process |
| 2. Inactivate Process |
| 3. Send Message     |
| 4. Exit             |
+-----+
1
Activate Process: 4
-----Process 4 held election.-----
Election message sent from Process 4 to process 5

+-----Current System Status-----+
| P1:    Active
| P2:    Active
| P3:    Active
| P4:    Active <-- Coordinator
| P5:    Inactive
+-----+
+-----MENU-----+
| 1. Activate Process |
| 2. Inactivate Process |
| 3. Send Message     |
| 4. Exit             |
+-----+
3
Send Message from process: 5
Process 5 is inactive.
```

C:\> Select Command Prompt

```
+-----Current System Status-----+
| P1:    Active
| P2:    Active
| P3:    Active
| P4:    Active <-- Coordinator
| P5:    Inactive
+-----+
+-----MENU-----+
| 1. Activate Process |
| 2. Inactivate Process |
| 3. Send Message     |
| 4. Exit             |
+-----+
3
Send Message from process: 3
Message Sent: Coordinator is Alive.

+-----Current System Status-----+
| P1:    Active
| P2:    Active
| P3:    Active
| P4:    Active <-- Coordinator
| P5:    Inactive
+-----+
+-----MENU-----+
| 1. Activate Process |
| 2. Inactivate Process |
| 3. Send Message     |
| 4. Exit             |
+-----+
4
Exiting...
```