Name: *……*

Department. : *Computer Engineering*

Class & Semester: *B.E (Final Year), SEM VIII*

Subject: *Distributed Computing Lab (DCL)*

Expt. No. 06

Title: *Write a program to demonstrate Bully Election Algorithm.*

Date:

Subject In-charge Sign:

……..

Experiment No. 06

Aim: Write a program to Demonstrate Bully Election Algorithm.

Theory:

The Bully Algorithm was devised by Garcia-Molina in 1982. When a process notices that the coordinator is no longer responding to requests, it initiates an election. Process P, holds an election as follows:

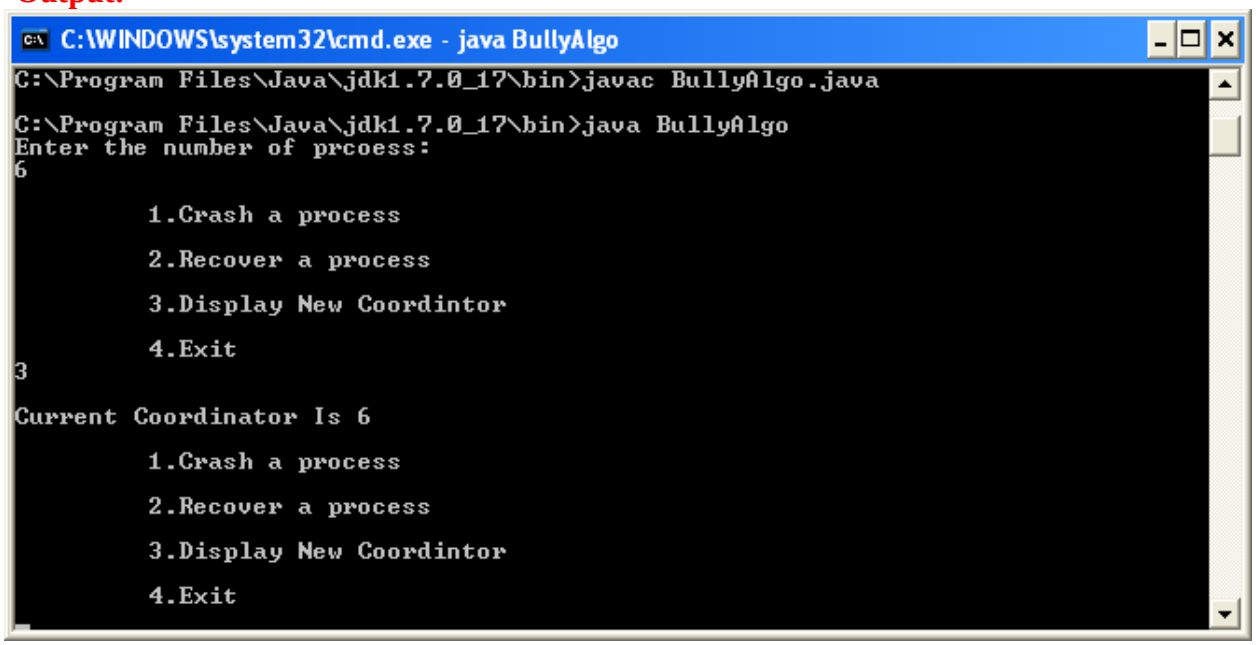
1) P sends an ELECTION message to all processes with higher numbers.
2) If no one responds, P wins the election and becomes coordinator.
3) If one of the higher-ups answers, it takes over. P's job is done.

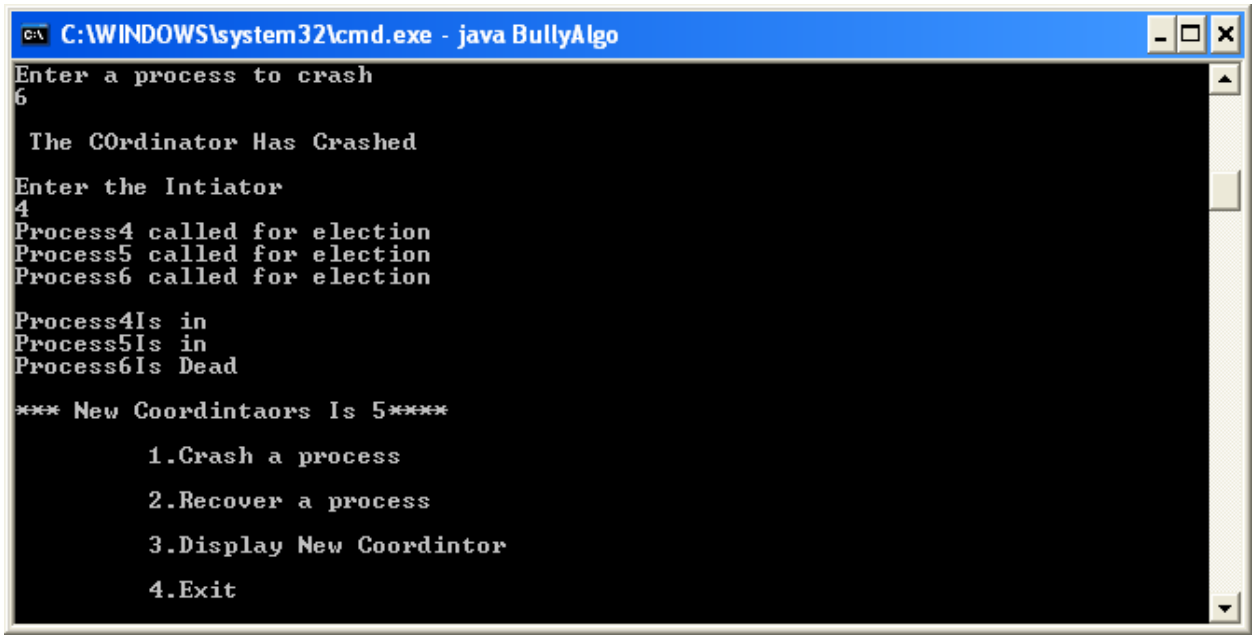
At any moment, a process can get an ELECTION message from one of its lower-numbered colleagues. When such a message arrives, the receiver sends an OK message back to the sender to indicate that it is alive and will take over. The receiver then holds an election, unless it is already holding one. Eventually, all processes give up but one and that one is the new coordinator. It announces its victory by sending all processes a message telling them that starting immediately it is the new coordinator.

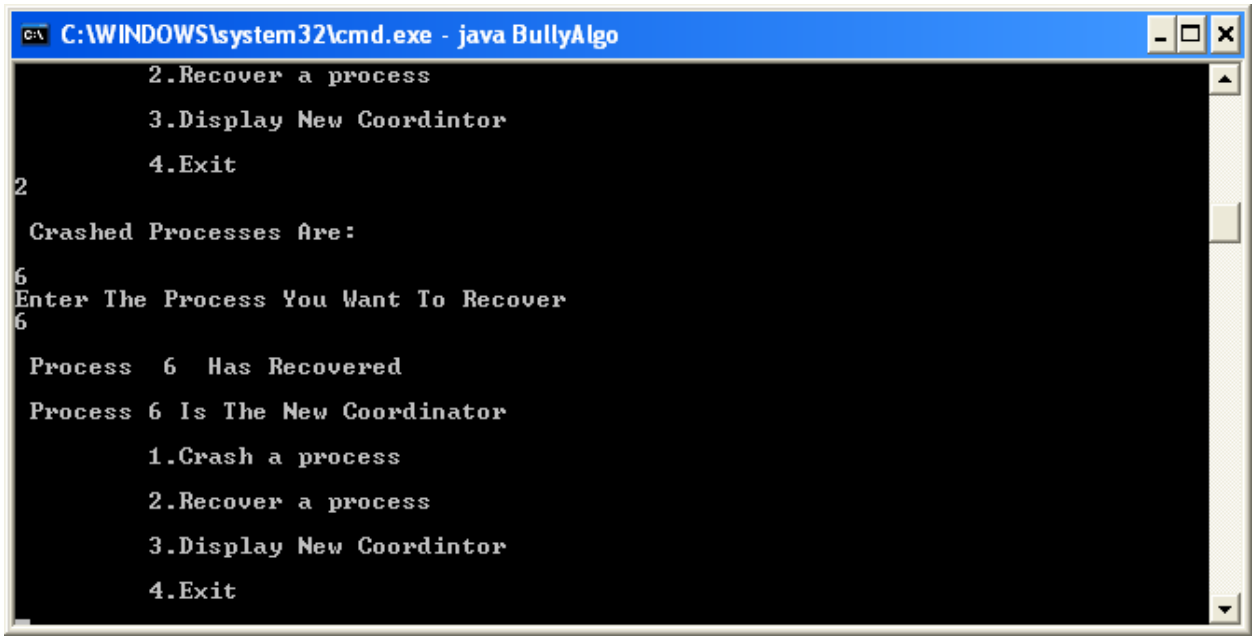
If a process that was previously down comes back up, it holds an election. If it happens to be the highest-numbered process currently running, it will win the election and will take over the coordinator's job. Thus the biggest guy in town always wins, hence the name "Bully Algorithm".

Program:

Output:


C:\WINDOWS\system32\cmd.exe - java BullyAlgo
C:\Program Files\Java\jdk1.7.0_17\bin>javac BullyAlgo.java
C:\Program Files\Java\jdk1.7.0_17\bin>java BullyAlgo
Enter the number of prcoess:
6
1.Crash a process
2.Recover a process
3.Display New Coordintor
4.Exit
3
Current Coordinator Is 6
1.Crash a process
2.Recover a process
3.Display New Coordintor
4.Exit


C:\WINDOWS\system32\cmd.exe - java BullyAlgo
Enter a process to crash
6
The COrdinator Has Crashed
Enter the Intiator
4
Process4 called for election
Process5 called for election
Process6 called for election
Process4Is in
Process5Is in
Process6Is Dead
*** New Coordintaors Is 5****
1.Crash a process
2.Recover a process
3.Display New Coordintor
4.Exit



Conclusion:

Lab outcome Achieved: