**IMPLEMENTATION OF BULLY ELECTION ALGORITHM**

In this project we will give an idea about how the token election algorithm works and how to implement it. The token election algorithm is designed for the process management. In distributed system since there are many processes running at the same time so the processes need a coordinator process which can handle them and to the resources. So election algorithm is about what if the coordinator process fails. If a coordinator fails then certainly we will require another process as a coordinator. So this algorithm helps us to do so.

1) Bully algorithm:-

When the coordinator fails then the process to which it is not responding starts giving alarming to the elder processes that the election has begun. And all the other processes do the same procedure if the none of the elder processes reply then the process sending the text will be the coordinator and it will tell everyone that he is the coordinator now. Otherwise the highest prior process will be the coordinator and broadcast the alarm that he has become the leader. If the biggest process comes again then it becomes the leader again.

**CODE For Implementation of Bully procedure in Election Algorithm:**

import java.io.\*;

import java.util.Scanner;

class Bully{

    static int n;

    static int pro[] = new int[100];

    static int sta[] = new int[100];

    static int co;

    public static void main(String args[])throws IOException

    {

        System.out.println("Enter the number of process");

        Scanner in = new Scanner(System.in);

        n = in.nextInt();

        int i,j;

        for(i=0;i<n;i++)

        {

            System.out.println("For process "+(i+1)+":");

            System.out.println("Status:");

            sta[i]=in.nextInt();

            System.out.println("Priority");

            pro[i] = in.nextInt();

        }

        System.out.println("Which process will initiate election?");

        int ele = in.nextInt();

        elect(ele);

        System.out.println("Final coordinator is "+co);

    }

    static void elect(int ele)

    {

        ele = ele-1;

        co = ele+1;

        for(int i=0;i<n;i++)

        {

            if(pro[ele]<pro[i])

            {

                System.out.println("Election message is sent from "+(ele+1)+" to "+(i+1));

                if(sta[i]==1)

                    elect(i+1);

            }

        }

    }

}

**Output:**

Enter the number of process

7

For process 1:

Status:

1

Priority

1

For process 2:

Status:

1

Priority

2

For process 3:

Status:

1

Priority

3

For process 4:

Status:

1

Priority

4

For process 5:

Status:

1

Priority

5

For process 6:

Status:

1

Priority

6

For process 7:

Status:

0

Priority

7

Which process will initiate election?

4

Election message is sent from 4 to 5

Election message is sent from 5 to 6

Election message is sent from 6 to 7

Election message is sent from 5 to 7

Election message is sent from 4 to 6

Election message is sent from 6 to 7

Election message is sent from 4 to 7

Final coordinator is 6