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**I.T. – 6**

**Q. To emulate Coordinator Selection Algorithms in Distributed syetems.**

**CoordinatorElection.c**

#include<stdio.h>

void bully()

{

int i,p[10],pno,ch,co,new\_co;

printf("\n\tHow many processes are in system : ");

scanf("%d",&pno);

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

{

p[i]=1;

}

do

{

printf("\n\t\*\*\*\*\* BULLY ALGO \*\*\*\*\*\n\t1.Crash Process\n\t2.Recover process\n\t3.Go in back menu\n\tEnter choice : ");

scanf("%d",&ch);

switch(ch)

{

case 1:printf("\n\tProcess %d is crash\*\*\*\*\*\n\tEnter co-ordinate to start election : ",pno);

p[pno-1]=0;

new\_co=0;

scanf("%d",&co);

l1 :

for(i=co;i<pno;i++)

printf("\n\t Election message to process %d",i+1);

for(i=co;i<pno;i++)

if(p[i]==1)

{

if(i>new\_co)

new\_co=i;

printf("\n\t Ok message from process %d ",i+1);

}

printf("\n\t\*\*\*\*New coordinator is %d \*\*\*\*\*",new\_co+1);

break;

case 2:

p[pno-1]=1;

co=pno-2;

goto l1;

break;

}

}while(ch!=3);

}

void ring()

{

int i,p[10],pno,ch,co,new\_co,flag=0;

printf("\n\tHow many processes are in system : ");

scanf("%d",&pno);

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

{

p[i]=1;

}

do

{

printf("\n\t\*\*\*\*\* RING ALGO \*\*\*\*\*\n\t1.Crash Process\n\t2.Recover process\n\t3.Go in back menu\n\tEnter choice : ");

scanf("%d",&ch);

switch(ch)

{

case 1:printf("\n\tProcess %d is crash\*\*\*\*\*\n\tEnter co-ordinate to start election : ",pno);

p[pno-1]=0;

scanf("%d",&co);

l2 :

new\_co=co;

for(i=co;i<pno;i++)

if(p[i])

{

printf("\n\t Message to %d ",i+1);

if(i>new\_co)

new\_co=i;

}

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

if(p[i])

printf("\n\t Message to %d ",i+1);

printf("\n\t\*\*\*\*Cycle completed New coordinator is %d \*\*\*\*\*",new\_co+1);

break;

case 2:

p[pno-1]=1;

co=pno-2;

goto l2;

break;

}

}while(ch!=3);

}

int main()

{

int ch;

do

{

printf("\n\t1.Bully \n\t2.Ring\n\t3.Exit\n\tEnter choice : ");

scanf("%d",&ch);

switch(ch)

{

case 1:

bully();

break;

case 2:

ring();

break;

}

}while(ch!=3);

return(0);

}

**1.Bully**

**2.Ring**

**3.Exit**

**Enter choice : 1**

**How many processes are in system : 6**

**\*\*\*\*\* BULLY ALGO \*\*\*\*\***

**1.Crash Process**

**2.Recover process**

**3.Go in back menu**

**Enter choice : 1**

**Process 6 is crash\*\*\*\*\***

**Enter co-ordinate to start election : 1**

**Election message to process 2**

**Election message to process 3**

**Election message to process 4**

**Election message to process 5**

**Election message to process 6**

**Ok message from process 2**

**Ok message from process 3**

**Ok message from process 4**

**Ok message from process 5**

**\*\*\*\*New coordinator is 5 \*\*\*\*\***

**\*\*\*\*\* BULLY ALGO \*\*\*\*\***

**1.Crash Process**

**2.Recover process**

**3.Go in back menu**

**Enter choice : 2**

**Election message to process 5**

**Election message to process 6**

**Ok message from process 5**

**Ok message from process 6**

**\*\*\*\*New coordinator is 6 \*\*\*\*\***

**\*\*\*\*\* BULLY ALGO \*\*\*\*\***

**1.Crash Process**

**2.Recover process**

**3.Go in back menu**

**Enter choice : 1**

**Process 6 is crash\*\*\*\*\***

**Enter co-ordinate to start election : 3**

**Election message to process 4**

**Election message to process 5**

**Election message to process 6**

**Ok message from process 4**

**Ok message from process 5**

**\*\*\*\*New coordinator is 5 \*\*\*\*\***

**\*\*\*\*\* BULLY ALGO \*\*\*\*\***

**1.Crash Process**

**2.Recover process**

**3.Go in back menu**

**Enter choice : 3**

**1.Bully**

**2.Ring**

**3.Exit**

**Enter choice : 3**

**--------------------------------**

**Process exited after 60.84 seconds with return value 3**

**Press any key to continue . . .**

**1.Bully**

**2.Ring**

**3.Exit**

**Enter choice : 2**

**How many processes are in system : 6**

**\*\*\*\*\* RING ALGO \*\*\*\*\***

**1.Crash Process**

**2.Recover process**

**3.Go in back menu**

**Enter choice : 1**

**Process 6 is crash\*\*\*\*\***

**Enter co-ordinate to start election : 1**

**Message to 2**

**Message to 3**

**Message to 4**

**Message to 5**

**Message to 1**

**\*\*\*\*Cycle completed New coordinator is 5 \*\*\*\*\***

**\*\*\*\*\* RING ALGO \*\*\*\*\***

**1.Crash Process**

**2.Recover process**

**3.Go in back menu**

**Enter choice : 2**

**Message to 5**

**Message to 6**

**Message to 1**

**Message to 2**

**Message to 3**

**Message to 4**

**\*\*\*\*Cycle completed New coordinator is 6 \*\*\*\*\***

**\*\*\*\*\* RING ALGO \*\*\*\*\***

**1.Crash Process**

**2.Recover process**

**3.Go in back menu**

**Enter choice : 1**

**Process 6 is crash\*\*\*\*\***

**Enter co-ordinate to start election : 3**

**Message to 4**

**Message to 5**

**Message to 1**

**Message to 2**

**Message to 3**

**\*\*\*\*Cycle completed New coordinator is 5 \*\*\*\*\***

**\*\*\*\*\* RING ALGO \*\*\*\*\***

**1.Crash Process**

**2.Recover process**

**3.Go in back menu**

**Enter choice : 3**

**1.Bully**

**2.Ring**

**3.Exit**

**Enter choice : 3**

**--------------------------------**

**Process exited after 99.99 seconds with return value 3**

**Press any key to continue . . .**