Bansilal Ramnath Agarwal Charitable Trust's

Vishwakarma Institute of Technology,Pune-37

(An Autonomous Institute of Savitribai Phule Pune University)

Department of Artificial Intelligence and Data Science

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Assignment 6: Write a program to simulate

i) Go back N Sliding Window Protocol in peer to peer mode

ii) Selective Repeat Sliding Window Protocol in peer to peer mode

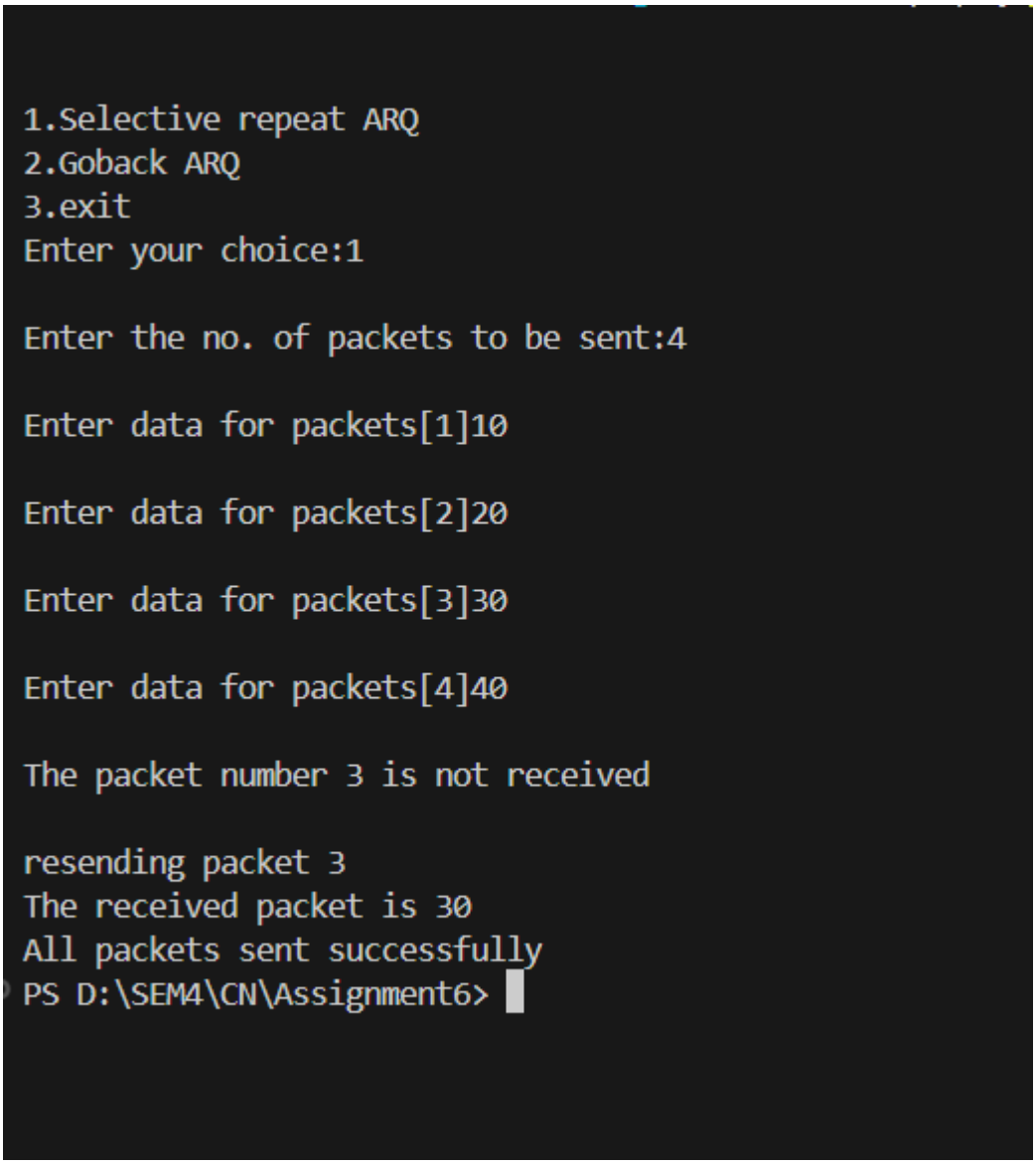
CODE :

```
#include<stdio.h>
#include<stdlib.h>
#include<math.h>
#include<unistd.h>
int n,r;
struct frame
{
char ack;
int data;
}frm[10];
int sender(void);
void recvack(void);
void resend(void);
void resend1(void);
void goback(void);
void selective(void);
int main()
{
int c;
do
{
printf("\n\n1.Selective repeat ARQ\n2.Goback ARQ\n3.exit");
printf("\nEnter your choice:");
scanf("%d",&c);
switch(c)
{
case 1:selective();
break;
case 2:goback();
break;
case 3:exit(0);
break;
}
}while(c>=4);
}
void goback()
```

```
{
sender();
recvack();
resend1();
printf("\n all packets sent successfully\n");
}
void selective()
{
sender();
recvack();
resend();
printf("\nAll packets sent successfully");
}
int sender()
{
int i;
printf("\nEnter the no. of packets to be sent:");
scanf("%d",&n);
for(i=1;i<=n;i++)
{
printf("\nEnter data for packets[%d]",i);
scanf("%d",&frm[i].data);
frm[i].ack='y';
}
return 0;
}
void recvack()
{
int i;
rand();
r=rand()%n;
frm[r].ack='n';
for(i=1;i<=n;i++)
{
if(frm[i].ack=='n')
printf("\nThe packet number %d is not received\n",r);
}
}
void resend() //SELECTIVE REPEAT
{
printf("\nresending packet %d",r);
sleep(2);
frm[r].ack='y';
printf("\nThe received packet is %d",frm[r].data);
}
```

```
void resend1() //GO BACK N
{
int i;
printf("\n resending from packet %d",r);
for(i=r;i<=n;i++)
{
sleep(2);
frm[i].ack='y';
printf("\nReceived data of packet %d is %d",i,frm[i].data);
}
}
```

OUTPUT:


1.Selective repeat ARQ
2.Goback ARQ
3.exit
Enter your choice:1
Enter the no. of packets to be sent:4
Enter data for packets[1]10
Enter data for packets[2]20
Enter data for packets[3]30
Enter data for packets[4]40
The packet number 3 is not received
resending packet 3
The received packet is 30
All packets sent successfully
PS D:\SEM4\CN\Assignment6>

```
1.Selective repeat ARQ
2.Goback ARQ
3.exit
Enter your choice:2

Enter the no. of packets to be sent:4

Enter data for packets[1]10

Enter data for packets[2]20

Enter data for packets[3]30

Enter data for packets[4]40

The packet number 3 is not received

 resending from packet 3
Received data of packet 3 is 30
Received data of packet 4 is 40
 all packets sent successfully
PS D:\SEM4\CN\Assignment6>
```