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QUESTION 3:

To implement sum of n numbers using fifo api. Sender side sends the data, eg. 3 5 5, receiver side adds the sequence and sends result back to sender.

PROGRAM:

sender.cpp

```
#include<stdio.h>
#include<stdlib.h>
#include<sys/types.h>
#include<errno.h>
#include<sys/stat.h>
#include<unistd.h>
#include<iostream>
#include<fcntl.h>
#include<charconv>
using namespace std;
extern int errno;
int main()
{
    char* buff ;
    buff= (char *) (calloc(10,sizeof(float)));
    int fd,n,i=0;
    if(mkfifo("/tmp/newfifo2",0666)==-1)
```

```

{
    perror("");
}
else{
    cout << "Fifo file successfully created" << endl;
}
fd=open("/tmp/newfifo2",O_RDWR);
if(fd==-1)
{
    perror("Error:");
    exit(1);
}
cout<<"Enter no. of numbers"<<endl;
fgets(buff,10,stdin);
write(fd,buff,sizeof(buff));
n=stoi(buff);
cout<<"Enter all the numbers"<<endl;
char number[10];

for(;i<n;i++)
{
    cin >> number;
    write(fd,number,10) ;
}
char sum[10];
read(fd,sum,10);
cout<< "RECEIVER's FINAL SUM RESULT AT SENDER SIDE : "<< sum << endl;
return 0;
}

```

receiver.cpp

```
#include<stdio.h>
#include<stdlib.h>
#include<sys/types.h>
#include<errno.h>
#include<sys/stat.h>
#include<unistd.h>
#include<iostream>
#include<fcntl.h>
#include<string>
using namespace std;
extern int errno;
int main()
{
    char* buff;
    char t1;
    buff= (char *)(calloc(10,sizeof(float)));
    int fd,n,i=0,sum=0,k,sum1,j=0;
    if(mkfifo("/tmp/newfifo2",0666)==-1)
    {
        perror("");
    }
    else{
        cout << "Fifo file successfully created" << endl;
    }
    fd=open("/tmp/newfifo2",O_RDWR);
    if(fd==-1)
    {
        perror("Error:");
    }
    read(fd,buff,10);
    n=stoi(buff);
    cout<<"No. of numbers to receive :"<<n<<endl;
    char number[10];
```

```

for(i = 0;i<n;i++)
{
    read(fd,number,10) ;
    cout<<"Num" << i+1 <<" : " <<number<<endl;
    k=stoi(number);
    sum+=k;
}
sum1=sum;
while(sum1>0)
{
    sum1/=10;
    j++;
}
sum1 = sum;
char *sum_in_reverse_order = (char *)calloc(j,sizeof(float));
char *sum_in_correct_order = (char *)calloc(j,sizeof(float));
for(i = 0;i <= j-1;i++){
    sum_in_reverse_order[i] = sum1%10 + '0';
    sum1 = sum1/10;
}
for(i = j-1; i>= 0;i--){
    sum_in_correct_order[(j-1)-i] = sum_in_reverse_order[i];
}
cout << "SUM OF ALL NUMBERS : " << sum_in_correct_order << endl;
write(fd,sum_in_correct_order,sizeof(sum_in_correct_order));
return 0;
}

```

FOLDER STRUCTURE :

↑ > This PC > THEAJAYFACTOR (D:) > Unix > fifo >					
	^				
	Name	Date modified	Type	Size	
ccess	.vscode	25-09-2021 21:07	File folder		
re - Personal	a	25-09-2021 22:18	File	20 KB	
	b	25-09-2021 22:18	File	19 KB	
jects	receiver	25-09-2021 22:22	C++ Source File	2 KB	
op	sender	25-09-2021 22:22	C++ Source File	1 KB	

OUTPUT:

sender.cpp

```
ajaysanthosh_boyina@Desktop07: /mnt/d/Unix/fifo
ajaysanthosh_boyina@Desktop07:/mnt/d/Unix/fifo$ g++ sender.cpp -o a
ajaysanthosh_boyina@Desktop07:/mnt/d/Unix/fifo$ ./a
Fifo file successfully created
Enter no. of numbers
5
Enter all the numbers
10
40
70
100
150
RECEIVER's FINAL SUM RESULT AT SENDER SIDE : 370
ajaysanthosh_boyina@Desktop07:/mnt/d/Unix/fifo$
```

receiver.cpp

```
ajaysanthosh_boyina@Desktop07: /mnt/d/Unix/fifo
ajaysanthosh_boyina@Desktop07:/mnt/d/Unix/fifo$ g++ receiver.cpp -o b
ajaysanthosh_boyina@Desktop07:/mnt/d/Unix/fifo$ ./b
File exists
No. of numbers to receive :5
Num1 : 10
Num2 : 40
Num3 : 70
Num4 : 100
Num5 : 150
SUM OF ALL NUMBERS : 370
ajaysanthosh_boyina@Desktop07:/mnt/d/Unix/fifo$
```

RESULT:

The above program executed successfully.