

Distributed Systems

Lab 2 - RPC

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Part A

Recreate the RPC mechanism illustrated in the document for an implementing procedure to add two integers.

Client:

```
a3x3k@ubuntu:~/Downloads/RPC 1$ sudo ./calc_client localhost 100 100
Programmed by S Abhishek (AM.EN.U4CSE19147)
The Result of Calculation is 200.

a3x3k@ubuntu:~/Downloads/RPC 1$ sudo ./calc_client localhost 10 20
Programmed by S Abhishek (AM.EN.U4CSE19147)
The Result of Calculation is 30.

a3x3k@ubuntu:~/Downloads/RPC 1$ sudo ./calc_client localhost 5 5
Programmed by S Abhishek (AM.EN.U4CSE19147)
The Result of Calculation is 10.

a3x3k@ubuntu:~/Downloads/RPC 1$ sudo ./calc_client localhost 50 5
Programmed by S Abhishek (AM.EN.U4CSE19147)
The Result of Calculation is 55.

a3x3k@ubuntu:~/Downloads/RPC 1$ sudo ./calc_client localhost 0 1
Programmed by S Abhishek (AM.EN.U4CSE19147)
The Result of Calculation is 1.
```

Server:

```
a3x3k@ubuntu:~/Downloads/RPC 1$ make -f Makefile.calc
cc -g -c -o calc_clnt.o calc_clnt.c
cc -g -c -o calc_client.o calc_client.c
cc -g -c -o calc_xdr.o calc_xdr.c
cc -g -o calc_client calc_clnt.o calc_client.o calc_xdr.o -lnsl
cc -g -c -o calc_svc.o calc_svc.c
cc -g -c -o calc_server.o calc_server.c
cc -g -o calc_server calc_svc.o calc_server.o calc_xdr.o -lnsl
```

```
a3x3k@ubuntu:~/Downloads/RPC 1$ sudo ./calc_server
- Addition of 100 and 100 is 200.

- Addition of 10 and 20 is 30.

- Addition of 5 and 5 is 10.

- Addition of 50 and 5 is 55.

- Addition of 0 and 1 is 1.
```

Part B

a) Extend the application in Part A to form a basic calculator running on a remote server. As a bare minimum include additional procedures for the subtraction, division, multiplication. You can add more features as you wish.

b) The client should be able to select the operation to perform

Client:

```
a3x3k@ubuntu:~/Downloads/Demo$ sudo ./calc_client localhost
Hey folks, You are now experimenting the Calculator programmed by S Abhishek (AM.EN.U4CSE19147)

      Available OPTIONS

      Addition - 1
      Subtraction - 2
      Multiplication - 3
      Division - 4
      Modulo - 5

Choose your OPTION : 1
Yo! You have chosen Addition :)

Enter the Number 1 : 10
Enter the Number 2 : 20

The Result of Calculation is 30.

You wanna go one more round??

      Continue - 1
      Exit - 2

Choose your OPTION : 1
```

```
Hey folks, You are now experimenting the Calculator programmed by S Abhishek (AM.EN.U4CSE19147)

      Available OPTIONS

      Addition - 1
      Subtraction - 2
      Multiplication - 3
      Division - 4
      Modulo - 5

Choose your OPTION : 2
Yo! You have chosen Subtraction :)

Enter the Number 1 : 50
Enter the Number 2 : 30

The Result of Calculation is 20.

You wanna go one more round??

      Continue - 1
      Exit - 2

Choose your OPTION : 1
```

```
Hey folks, You are now experimenting the Calculator programmed by S Abhishek (AM.EN.U4CSE19147)

      Available OPTIONS

      Addition - 1
      Subtraction - 2
      Multiplication - 3
      Division - 4
      Modulo - 5

Choose your OPTION : 3
Yo! You have chosen Multiplication :)

Enter the Number 1 : 50
Enter the Number 2 : 50

The Result of Calculation is 2500.

You wanna go one more round??

      Continue - 1
      Exit - 2

Choose your OPTION : 1
```

Hey folks, You are now experimenting the Calculator programmed by S Abhishek (AM.EN.U4CSE19147)

Available OPTIONS

Addition - 1
Subtraction - 2
Multiplication - 3
Division - 4
Modulo - 5

Choose your OPTION : 4

Yo! You have chosen Division :)

Enter the Number 1 : 100

Enter the Number 2 : 50

The Result of Calculation is 2.

You wanna go one more round??

Continue - 1
Exit - 2

Choose your OPTION : 1

Hey folks, You are now experimenting the Calculator programmed by S Abhishek (AM.EN.U4CSE19147)

Available OPTIONS

Addition - 1
Subtraction - 2
Multiplication - 3
Division - 4
Modulo - 5

Choose your OPTION : 5

Yo! You have chosen Modulo :)

Enter the Number 1 : 500

Enter the Number 2 : 50

The Result of Calculation is 0.

You wanna go one more round??

Continue - 1
Exit - 2

Choose your OPTION : 1

Hey folks, You are now experimenting the Calculator programmed by S Abhishek (AM.EN.U4CSE19147)

Available OPTIONS

Addition - 1
Subtraction - 2
Multiplication - 3
Division - 4
Modulo - 5

Choose your OPTION : 6

Yo! No such OPTION :(

Choose your OPTION : 1

Yo! You have chosen Addition :)

Enter the Number 1 : 100

Enter the Number 2 : 10000

The Result of Calculation is 10100.

You wanna go one more round??

Continue - 1
Exit - 2

Choose your OPTION : 2

Bye!! :) :)

Server:

```
a3x3k@ubuntu:~/Downloads/Demo$ sudo ./calc_server
- Addition of 10 and 20 is 30.

- Subtraction of 50 and 30 is 20.

- Multiplication of 50 and 50 is 2500.

- Division of 100 and 50 is 2.

- Modulo of 500 and 50 is 0.

- Addition of 100 and 10000 is 10100.
```

Thankyou!!