

Homework5

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程序说明

程序分为两部分，服务端和客户端，使用tcp连接：

- 客户端：客户端发送数据给服务端，按ctrl+c后同时终止服务端和客户端。
- 服务端：接收客户端数据，由分发线程分发任务。
 - 分发线程：将客户端数据传输给工作线程，如果工作线程已满，返回报错信息。
 - 工作线程：显示提示信息后睡眠5s，之后将结果发送回客户端。

程序样例输出：

- 客户端：

```
$ ./mutithreadclient
> data1
> data2
> data3
> data4
> S: Thread 2 deal with your data "data1"!
> S: Thread 1 deal with your data "data2"!
> S: Thread 3 deal with your data "data3"!
> S: Thread 4 deal with your data "data4"!
> 1
> 2
> 3
> 4
> 5
> S: ***** Error: All thread is busy!
> 6
> S: ***** Error: All thread is busy!
> 7
> S: ***** Error: All thread is busy!
> S: Thread 2 deal with your data "1"!
> S: Thread 1 deal with your data "2"!
> S: Thread 3 deal with your data "3"!
> S: Thread 4 deal with your data "4"!
```

- 服务端：

```
$ ./mutithreadserver
```

```
Thread 2 begin!
Thread 2 is working with the data "data1"!
Thread 1 begin!
Thread 1 is working with the data "data2"!
Thread 3 begin!
Thread 3 is working with the data "data3"!
Thread 4 begin!
Thread 4 is working with the data "data4"!
Thread 2 end!
Thread 1 end!
Thread 3 end!
Thread 4 end!
Thread 2 begin!
Thread 2 is working with the data "1"!
Thread 1 begin!
Thread 1 is working with the data "2"!
Thread 3 begin!
Thread 3 is working with the data "3"!
Thread 4 begin!
Thread 4 is working with the data "4"!
***** Error: All thread is busy!
***** Error: All thread is busy!
***** Error: All thread is busy!
Thread 2 end!
Thread 1 end!
Thread 3 end!
Thread 4 end!
```