

# Requirement

- cmake >= VERSION 3.16)
- c++ 14

# Usage

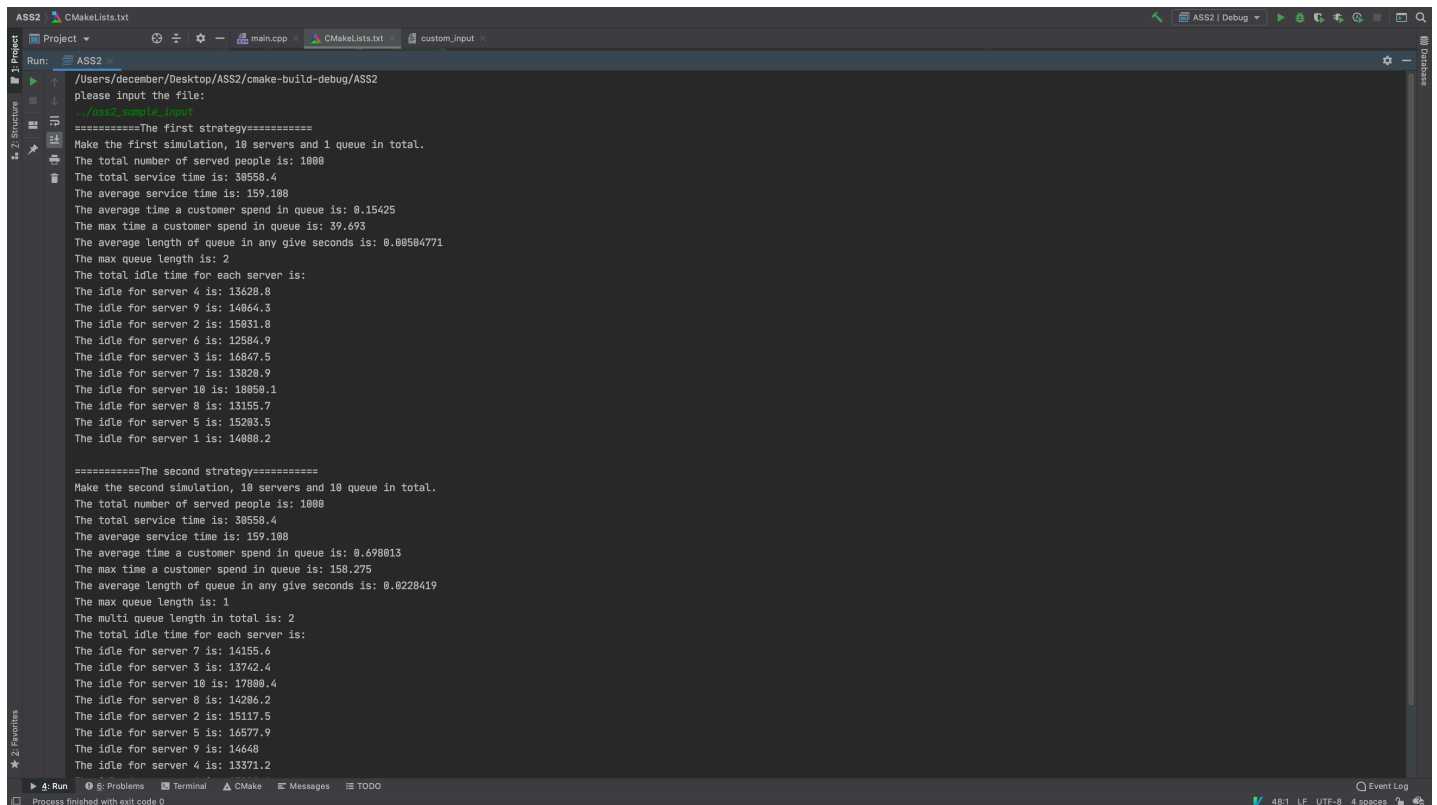
Cause I use linux, there are two way to choose:

# CLion

- click the run button
- input the file name in the running interface

Here is the optional file:

```
../ass2_sample_input  
../custom_input
```



```
ASS2 CMakeLists.txt  
Project  
main.cpp CMakeLists.txt custom_input  
Run: ASS2  
/Users/deceber/Desktop/ASS2/cmake-build-debug/ASS2  
please input the file:  
../ass2_sample_input  
=====The first strategy=====  
Make the first simulation, 10 servers and 1 queue in total.  
The total number of served people is: 1000  
The total service time is: 30558.4  
The average service time is: 159.108  
The average time a customer spend in queue is: 0.15425  
The max time a customer spend in queue is: 39.693  
The average length of queue in any give seconds is: 0.00584771  
The max queue length is: 2  
The total idle time for each server is:  
The idle for server 4 is: 13628.8  
The idle for server 9 is: 14864.3  
The idle for server 2 is: 15031.8  
The idle for server 6 is: 12584.9  
The idle for server 3 is: 16847.5  
The idle for server 7 is: 13820.9  
The idle for server 10 is: 10850.1  
The idle for server 8 is: 13155.7  
The idle for server 5 is: 15283.5  
The idle for server 1 is: 14888.2  
  
=====The second strategy=====  
Make the second simulation, 10 servers and 10 queue in total.  
The total number of served people is: 1000  
The total service time is: 30558.4  
The average service time is: 159.108  
The average time a customer spend in queue is: 0.698013  
The max time a customer spend in queue is: 158.275  
The average length of queue in any give seconds is: 0.0228419  
The max queue length is: 1  
The multi queue length in total is: 2  
The total idle time for each server is:  
The idle for server 7 is: 14155.6  
The idle for server 3 is: 13742.4  
The idle for server 10 is: 17880.4  
The idle for server 8 is: 14286.2  
The idle for server 2 is: 15117.5  
The idle for server 5 is: 16577.9  
The idle for server 9 is: 14648  
The idle for server 4 is: 13371.2  
  
Process finished with exit code 0
```

# Terminal

```
cd ASS2
g++ main.cpp
./a.out
```

```
▲ ~/Desktop/ASS2 g++ main.cpp
```

```
▲ ~/Desktop/ASS2 ./a.out
```

```
please input the file:
```

```
ass2_sample_input
```

```
=====The first strategy=====
```

```
Make the first simulation, 10 servers and 1 queue in total.
```

```
The total number of served people is: 1000
```

```
The total service time is: 30558.4
```

```
The average service time is: 159.108
```

```
The average time a customer spend in queue is: 0.15425
```

```
The max time a customer spend in queue is: 39.693
```

```
The average length of queue in any give seconds is: 0.00504771
```

```
The max queue length is: 2
```

```
The total idle time for each server is:
```

```
The idle for server 4 is: 13628.8
```

```
The idle for server 9 is: 14064.3
```

```
The idle for server 2 is: 15031.8
```

```
The idle for server 6 is: 12584.9
```

```
The idle for server 3 is: 16847.5
```

```
The idle for server 7 is: 13820.9
```

```
The idle for server 10 is: 18050.1
```

```
The idle for server 8 is: 13155.7
```

```
The idle for server 5 is: 15203.5
```

```
The idle for server 1 is: 14088.2
```

```
=====The second strategy=====
```

```
Make the second simulation, 10 servers and 10 queue in total.
```

```
The total number of served people is: 1000
```

```
The total service time is: 30558.4
```

```
The average service time is: 159.108
```

```
The average time a customer spend in queue is: 0.698013
```

```
The max time a customer spend in queue is: 158.275
```

```
The average length of queue in any give seconds is: 0.0228419
```

```
The max queue length is: 1
```

```
The multi queue length in total is: 2
```

```
The total idle time for each server is:
```

```
The idle for server 7 is: 14155.6
```

```
The idle for server 3 is: 13742.4
```

```
The idle for server 10 is: 17800.4
```

The idle for server 10 is: 17000.7

The idle for server 8 is: 14206.2

The idle for server 2 is: 15117.5

The idle for server 5 is: 16577.9

The idle for server 9 is: 14648

The idle for server 4 is: 13371.2

The idle for server 6 is: 13090.4

The idle for server 1 is: 14582