

Assignment 2 Report

C:\Users\MAHE\Desktop\FreeRTOSv10.0.1\FreeRTOSv10.0.1\FreeRTOS\Demo\WIN32-MSVC\Debug\RTOSDemo.exe

```
Started matrix multiplication!
Sending data...
The period of matrix_task() is: 1214
Started matrix multiplication!
Data sent!
The period of matrix_task() is: 1158
Started matrix multiplication!
Communication Period is : 2282
Changing priority of communication_task() to 4: count=2282
Sending data...
Data sent!
The period of matrix_task() is: 1124
Started matrix multiplication!
Communication Period is : 200
Sending data...
Data sent!
Communication Period is : 200
Sending data...
Data sent!
Communication Period is : 200
Sending data...
Data sent!
Communication Period is : 200
Sending data...
Data sent!
Communication Period is : 200
Sending data...
Data sent!
Communication Period is : 200
```

1. Why is "matrix task" using most of the CPU utilization?

Because the "matrix task" task has highest priority (3) before solving this issue. Matrix multiplication algorithm has high time complexity.

2. Why must the priority of "communicationtask" increase in order for it to work properly?

It will get more CPU time and "matrixtask" will not pre-empt this task.

3. What happens to the completion time of "matrixtask" when the priority of "communicationtask" is increased?

Not much difference was noted in the completion time of the "matrixtask".

4. How many seconds is the period of "matrixtask"?

As it can be seen in the screenshot, its period is about 1.15s