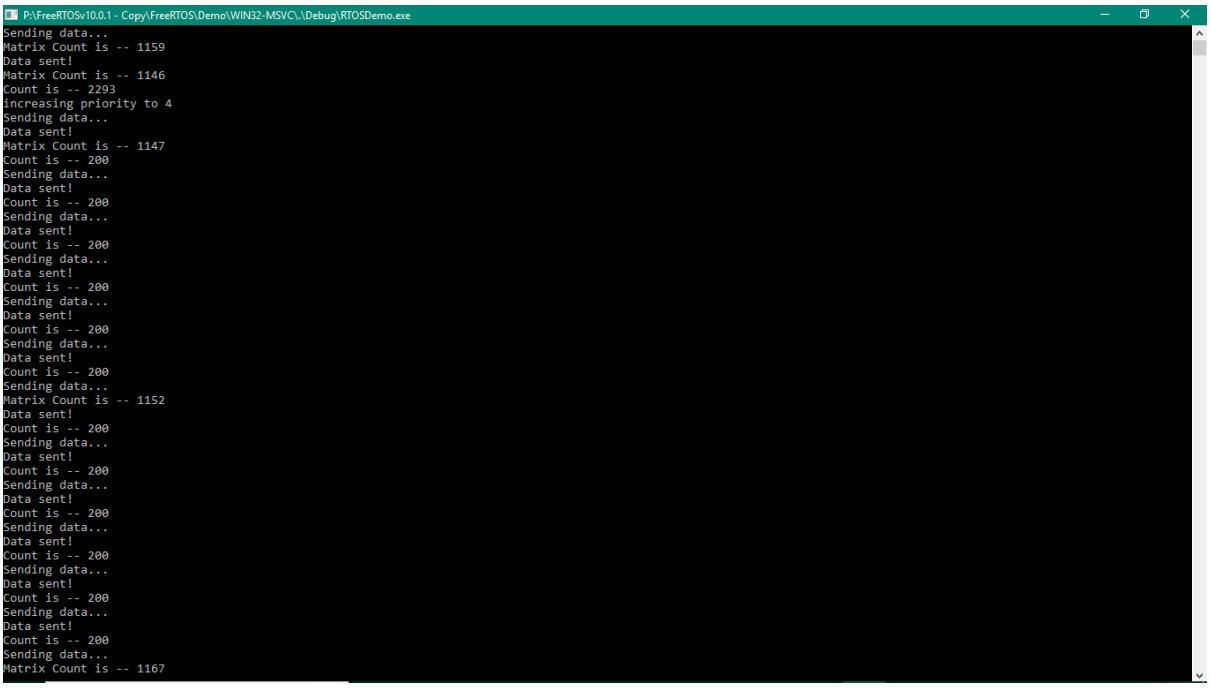
ASSIGNMENT 2

Screenshot:



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

Because the “matrixtask” task has highest priority(3) before solving this issue. Also, there was a “for” loop in the task which was taking lots of time to execute.
(long simulationdelay;
for (simulationdelay = 0; simulationdelay<1000000000; simulationdelay++);
)

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. Thus, it will work properly and will satisfy sufficient conditions.

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

Not much difference was noted. The only thing changing is the slots in which the “matrixtask" is executed.

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

As it can be seen in the screenshot, its period is about 1.15s (tick period is set to 1Hz in FreeRTOSConfig.h)