

Team Members:3

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Project Files:

- 1) main_blinky.c
- 2) Internalvalues.h

Description Of Files:

main_blinky.c

- 1) Creates 3 Tasks and It also creates another task for the EDF SCHEDULER which has the highest priority
- 2)
 - a) EDF Scheduler runs for every release time of a new job in a task and schedules the corresponding task based on the priorities.
 - b) The priorities are calculated based on the absolute deadline of the jobs and suppose if absolute deadlines are same then priorities are calculated based on the Initial priority values defined in header file
 - c) After a job gets completed , We again call the scheduler when a new job is released and recalculate the priorities and a new job will be scheduled based on that priority (Least Deadline).
 - d) These steps will run in an infinite loop

Internalvalues.h

- 1) It contains the predefined values for the periods and priorities of the 3 Tasks defined in header section
- 2) It Generates the Random Values for Temperature Reading, Pressure Reading, Height Reading for every job.

Sample Input:

Assumed Period:

- 1)vtasktemperature:12
- 2)vtaskpressure:5
- 3)vtaskheight:6

Assumed priority:

- 1) vtasktemperature:1
- 2) vtaskpressure:3
- 3) vtaskheight:2

Output:

<terminated> (exit value: -1) RTOSDemo Debug [C/C++ Application] C:\Users\jithel\OneDrive\Desktop\FreeRTOSv202111.00\FreeRTOSv202111.00\FreeRTOS\Demo\WIN32-MingW\Debug\RTOSDemo.exe (05/12/21, 10:09 pm)

Trace started.

The trace will be dumped to disk if a call to configASSERT() fails.

Uncomment the call to kbhit() in this file to also dump trace with a key press.

Pressure of the System is :2 Bar

Task:2(Pressure) is executing and Number of ticks is 0

Height Obtained is :41 meters

Task:3(Height) is executing and Number of ticks is 0

Temperature of the System is :61 Celsius

Task:1(Temperature) is executing and Number of ticks is 0

Pressure of the System is :8 Bar

Task:2(Pressure) is executing and Number of ticks is 5

Height Obtained is :449 meters

Task:3(Height) is executing and Number of ticks is 6

Pressure of the System is :5 Bar

Task:2(Pressure) is executing and Number of ticks is 10

Height Obtained is :328 meters

Task:3(Height) is executing and Number of ticks is 12

Temperature of the System is :100 Celsius

Task:1(Temperature) is executing and Number of ticks is 12

Pressure of the System is :1 Bar

Task:2(Pressure) is executing and Number of ticks is 15

Height Obtained is :474 meters

Task:3(Height) is executing and Number of ticks is 18

Pressure of the System is :10 Bar

Task:2(Pressure) is executing and Number of ticks is 20

Team Contributions:

1) Dhruv Bhatnagar (Task1, Task3)

2) Naladala Jithendra Chowdary (Task2, Task3)

3) B Nikhil (Task1, Task2)