

Department of Electronics and Communication

Real Time Operating System Lab

(22EECE302)

REVIEW-3

Team Number-: 12

Team Members

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Statement: Write a C program with three tasks, having task 2 waiting for an even from task 3 for a duration and flag bits of 0xf000 and 0x0001.

Code:

```
#include<rtl.h>
#include<lpc21xx.h>
#include<stdio.h>
OS_TID tsk1,tsk2,tsk3;
OS_RESULT RE1,RE2,RE3;
int cnt1,cnt2,cnt3,cnt4,cnt5,i;
__task void job1(void);
__task void job2(void);
__task void job3(void);

__task void job1(void)
{
    os_tsk_prio_self(2);
    tsk1=os_tsk_self();
    os_tsk_create(job2,1);
    while(1)
    {
        for(i=0;i<15;i++)
        {
            cnt1++;
            for(i=0;i<65000;i++);
            for(i=0;i<65000;i++);
            for(i=0;i<65000;i++);
            for(i=0;i<65000;i++);
        }
        os_evt_set(0x0001,tsk2);
        os_dly_wait(30);
    }
}

__task void job2(void)
{
    os_tsk_prio_self(3);
    tsk2=os_tsk_self();
    os_tsk_create(job3,4);
    while(1)
    {
        RE2=os_evt_wait_or(0x0001,0xf000);
        if(RE2==OS_R_EVT)
```



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```
{
    for(i=0;i<15;i++)
    {
        cnt2++;
        for(i=0;i<65000;i++);
        for(i=0;i<65000;i++);
        for(i=0;i<65000;i++);
        for(i=0;i<65000;i++);
    }
    os_dly_wait(10);
}
else if(RE2==OS_R_TMO)
{
    for(i=0;i<15;i++)
    {
        cnt5++;
        for(i=0;i<65000;i++);
        for(i=0;i<65000;i++);
        for(i=0;i<65000;i++);
        for(i=0;i<65000;i++);
    }
    os_dly_wait(10);
}
}
```

```
__task void job3(void)
{
    while(1)
    {
        for(i=0;i<15;i++)
        {
            cnt3++;
            for(i=0;i<65000;i++);
            for(i=0;i<65000;i++);
            for(i=0;i<65000;i++);
            for(i=0;i<65000;i++);
        }
        os_evt_set(0x0001,tsk1);
        os_dly_wait(30);
    }
}
```



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```

int main(void)
{
    cnt1=0;
    cnt2=0;
    cnt3=0;
    cnt4=0;
    cnt5=0;
    os_sys_init(job1);
    while(1);
}

```

Output:

The screenshot displays the uVision IDE interface. The central pane shows the assembly code for the provided C program. The disassembly view on the left shows the assembly instructions corresponding to the C code. The system and thread view on the right shows the task list with the following tasks:

ID	Name	Priority	State	Delay	Event Value	Event Mask	Stack Usage
1	job1	2	Ready	16			32%
2	job2	3	Wait_OR	16	0x0000	0x0001	36%
3	job3	4	Running				Overflow
255	os_idle_demon	0	Ready				32%

The watch window at the bottom shows the values of the variables cnt1, cnt2, cnt3, and cnt5, all of which are 0.