

**SUBJECT: OPERATING SYSTEMS AND EMBEDDED SYSTEM DESIGN**

**SUBJECT CODE:22EECP302**

**TOPIC: Write a C code to demonstrate the concept of Task Switching**

**1st Task- Toggle leds**

**2nd Task- Display on Seven segment**

**3rd Task- Rotate stepper motor anti-clockwise**

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**UNDER THE GUIDANCE OF:** 

**Prof. Shivaling Hunagund GUIDE SIGNATURE**

**CODE:**

**#include <lpc21xx.h>**

**#include <rtl.h>**

**#include<stdio.h>**

**void sev(void);**

**void delay(unsigned int);**

**unsigned int i;**

**unsigned int Disp[10] = {0x003F0000, 0x00060000, 0x005B0000, 0x004F0000, 0x00660000,**

**0x006D0000, 0x007D0000, 0x00070000, 0x007F0000, 0x006F0000};**

**\_\_task void job1(void);**

**\_\_task void job2(void);**

**\_\_task void job3(void);**

**void delay(unsigned int j) {**

**unsigned int i;**

**for (i = 0; i < j; i++);**

**}**

**\_\_task void job1(void) {**

**os\_tsk\_create(job2, 0);**

**while (1) {**

**sev();**

**}**

**}**

**\_\_task void job2(void) {**

**PINSEL0 = 0x00000000;**

**IODIR0 |= 0x0000F000;**

**while (1) {**

**IOSET0 = 0x00001000;**

**delay(1000000);**

**IOCLR0 = 0x0000F000;**

**sev();**

**IOSET0 = 0x00002000;**

**delay(1000000);**

**IOCLR0 = 0x0000F000;**

**sev();**

**IOSET0 = 0x00004000;**

**delay(1000000);**

**IOCLR0 = 0x0000F000;**

**sev();**

**IOSET0 = 0x00008000;**

**delay(1000000);**

**IOCLR0 = 0x0000F000;**

**job3();**

**}**

**}**

**void sev(void) {**

**IODIR0 |= 0x0FF0000;**

**IOSET0 |= 0xF0000000;**

**for (i = 0; i < 10; i++)**

**{**

**IOSET0 |= Disp[i];**

**delay(1000000);**

**IOCLR0 |= 0x00FF0000;**

**}**

**job3();**

**}**

**\_\_task void job3(void)**

**{**

**PINSEL0 = 0x00000000;**

**IODIR0 = 0x0000F000;**

**while (1) {**

**IOSET0 = 0x00001000;**

**delay(65000);**

**IOCLR0 = 0x00001000;**

**IOSET0 = 0x00002000;**

**delay(65000);**

**IOCLR0 = 0x00002000;**

**IOSET0 = 0x00004000;**

**delay(65000);**

**IOCLR0 = 0x00004000;**

**IOSET0 = 0x00008000;**

**delay(65000);**

**IOCLR0 = 0x00008000;**

**sev();**

**}**

**}**

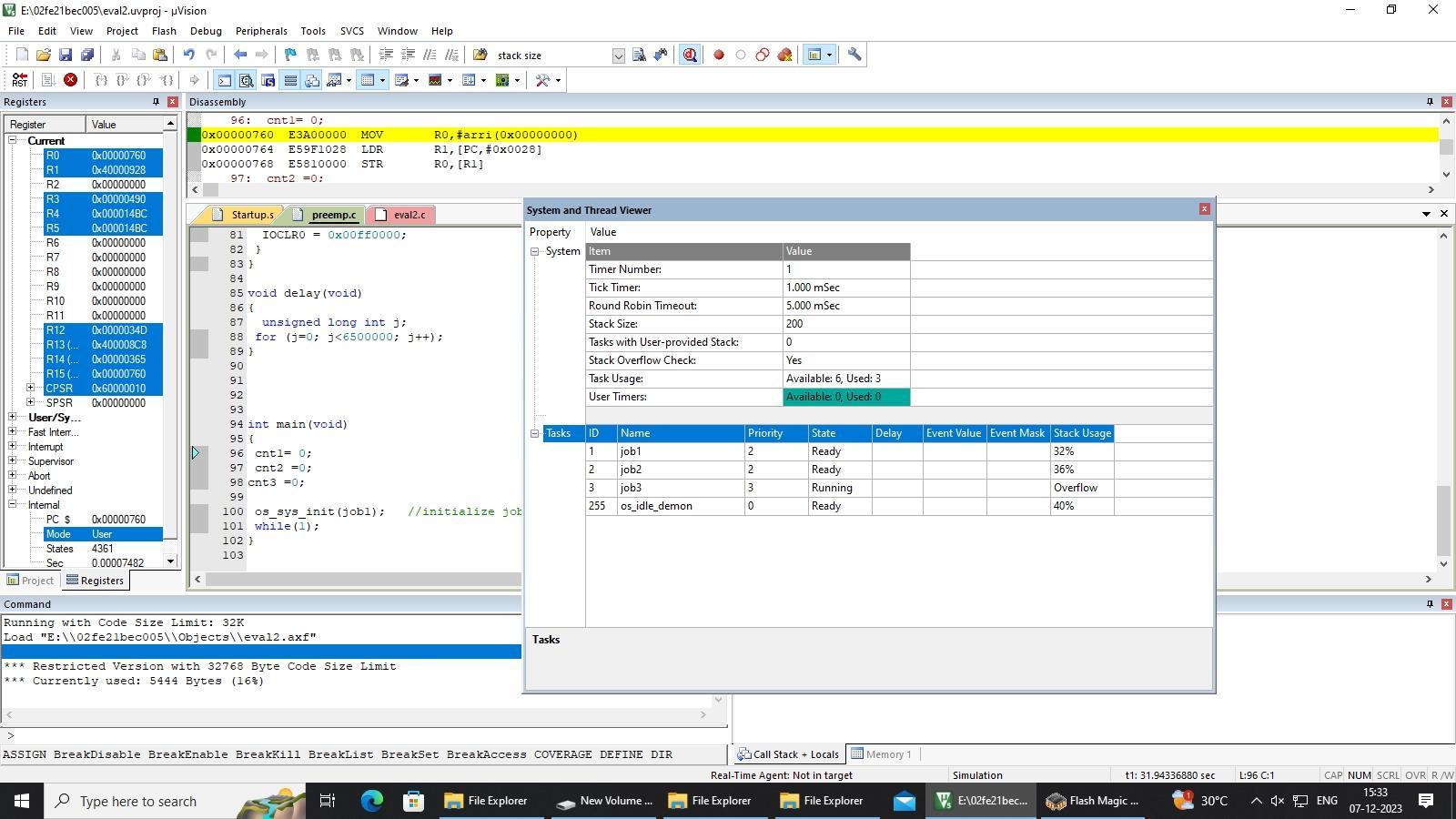
**int main(void) {**

**os\_sys\_init(job1);**

**while (1);**

**}**

**IMPLEMENTATION:**



**OUTPUT:**