

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

RTOS Review 1

Team Number-: 12

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Statement: Roundrobin--- write a C program to demonstrate the concept of ROUND ROBIN task switching mechanisms for 3 tasks.

```
1st Task- seven segment-- 0 to 9
2nd Task- blink LED
3rd Task- UART 11 to 20 respectively.
```

Code:

```
#include <lpc21xx.h>
#include <rtl.h>
#include <stdio.h>
void sev(void);
void delay(unsigned int);
void delay1(void);
void UART(void);
void serial(void);
unsigned int counter1, i;
unsigned char *ptr;
char arri[20];
unsigned char arr[]="11 12 13 14 15 16 17 18 19 20\n";
0X006D0000, 0X007D0000, 0X00070000, 0X007F0000, 0X006F0000);
 task void job1(void);
 task void job2(void);
 task void job3(void);
void delay(unsigned int i) {
  unsigned int i;
  for (i = 0; i < j; i++);
 task void job1(void) {
```



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```
os tsk create(job2, 0);
  while (1) {
    sev();
  task void job2(void) {
  os tsk create(job3, 2);
   PINSEL0 = 0x000000000;
                                 //keep or replace
   IODIR0 = 0x000F0000; // Configure P0.16 to P0.19 as output
// all LED's turned OFF.
   while(1)
IOCLR0=0x000F0000;
delay1();
 IOSET0=0x000F0000;
 delay1();
job3();
 }
  task void job3(void) {
while(1)
UART();
//sev();
//job1();
void delay1(void) {
  unsigned long int j;
  for (j = 0; j < 650000; j++);
void sev(void) {
/******delay try*/
 IODIR0 = 0xf0ff0000;
  IOSET0 = 0xf00000000;
  for (i = 0; i < 10; i++)
    IOSET0 = Disp[i]; //
    delay1();
delay1();
    IOCLR0 = 0x00ff0000;
job2();
```



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```
for(i=0;i<65000;i++);
}
void UART(void)
while(1)
serial();
ptr=arr;
while(*ptr!='0')
U0THR=*ptr++;
while(!(U0LSR&0X20)==0X20);
for(i=0;i<=600;i++);
delay1();
for(i=0;i<=60000;i++);
sev();
}
void serial()
 PINSEL0 = 0x00000005;
 U0LCR = 0x83;
 U0DLL = 0x61;
 U0LCR = 0x03;
 U0IER = 0x01;
int main(void) {
  os sys init(job1);
  while (1);
```

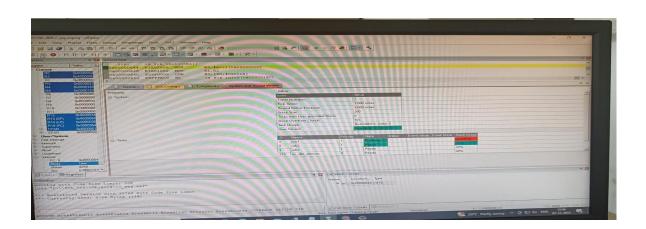


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Output:









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