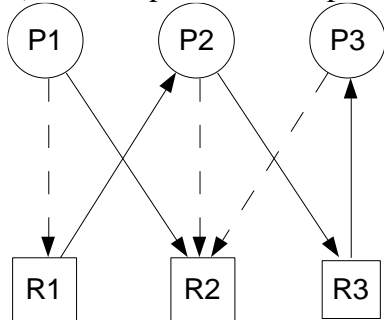


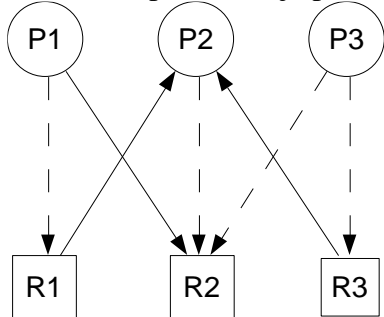
# Rešenja drugog kolokvijuma iz Operativnih sistema 2, decembar 2023.

1. (10 poena)

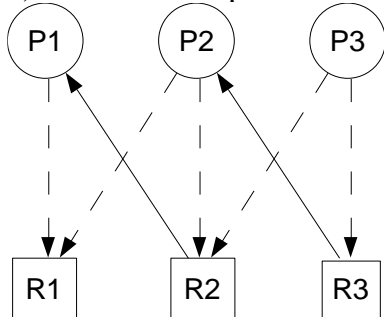
1) Suspendovani su procesi P1 i P2.



2) Suspendovan je proces P1.



3) Nema suspendovanih procesa.



## 2. (10 poena)

```
void updateRefBits () {
    for (int i=0; i<PMT1_COUNT; i++) {
        if (pmt1[i][0]==FREE_PMT_SLOT) continue;
        for (int j=0; j<PMT1_SIZE; j++) {
            refBits[i][j] >>= 1;
            refBits[i][j] |= (pmt1[i][j]&1)<<31;
            pmt1[i][j] &= ~1U;
        }
    }
}

PMTEntry* getVictim () {
    uint32_t min = 0;
    PMTEntry* victim = 0;
    for (int i=0; i<PMT1_COUNT; i++) {
        if (pmt1[i][0]==FREE_PMT_SLOT) continue;
        for (int j=0; j<PMT1_SIZE; j++) {
            if (pmt1[i][j]==FREE_PMT_ENTRY) continue;
            if (refBits[i][j]) < min {
                min = refBits[i][j];
                victim = &pmt1[i][j];
            }
        }
    }
    return victim;
}
```

### 3. (10 poena)

```
int freeUnusedPages () {
    static const uint32_t refThreshold = 1<<8;
    static const PMTEntry dirtyMask = 2;
    int count = 0;
    for (int i=0; i<PMT1_COUNT; i++) {
        if (pmt1[i][0]==FREE_PMT_SLOT) continue;
        for (int j=0; j<PMT1_SIZE; j++) {
            if (pmt1[i][j]==FREE_PMT_ENTRY) continue;
            if (refBits[i][j]<refThreshold && pmt1[i][j]&dirtyMask)
                discardPage(i,j), count++;
        }
    }
    return count;
}
```