

Rešenja zadataka za treći kolokvijum iz Operativnih sistema 1 avgust 2026.

1. (10 poena)

```
IORequest *dma1Pending = 0, *dma2Pending = 0; // Currently pending requests

void startDMA () {
    if (ioHead==0 || dma1Pending!=0 || != dma2Pending!=0) return;

    dma1Pending = ioHead; // Take the first request,
    ioHead = ioHead->next; // remove it from the list
    if (ioHead==0) ioTail = 0;
    *dmaAddr = dma1Pending->buffer; // and assign it to DMA
    *dmaBlk = dma1Pending->blk;

    if (ioHead) {
        dma2Pending = ioHead; // Take the next request,
        ioHead = ioHead->next; // remove it from the list
        if (ioHead==0) ioTail = 0;
        *dmaAddr = dma2Pending->buffer; // and assign it to DMA
        *dmaBlk = dma2Pending->blk;
    }

    *dmaCtrl = 1; // Start I/O
}

void transfer (IORequest* req) {
    req->next = 0;
    if (!ioHead) {
        ioHead = ioTail = req;
        startDMA();
    } else
        ioTail = ioTail->next = req;
}

interrupt void dmaInterrupt () {
    if (*dmaStatus&1) { // DMA transfer complete
        if (*dmaStatus&2) { // Error in I/O
            if (dma1Pending) dma1Pending->status = -1;
            if (dma2Pending) dma2Pending->status = -1;
        } else{
            if (dma1Pending) dma1Pending->status = 0;
            if (dma2Pending) dma2Pending->status = 0;
        }

        if (dma1Pending) dma1Pending->task->resume();
        if (dma2Pending) dma2Pending->task->resume();

        dma1Pending = dma2Pending = 0;
        startDMA();
    }
}
```

2. (10 poena)

```
link("/home/docs/bar","foo");  
symlink("/home/docs/bar","/home/bar");
```

3. (10 poena)

```
bool FCB::checkRight (uid_t uid, short rwx) const {  
    for (int i=0; i<ACL_SIZE; i++)  
        if (this->acl[i].uid==uid)  
            return (this->acl[i].rwx & rwx)==rwx;  
    return false;  
}
```