

Rešenja trećeg kolokvijuma iz Operativnih sistema 2, januar 2016.

1. (10 poena)

```
class DiskScheduler {
public:
    DiskScheduler ();
    DiskRequest* get ();
    void put (DiskRequest*);
private:
    DiskRequest *head, *cursor;
};

DiskScheduler::DiskScheduler () : head(0), cursor(0) {}

void DiskScheduler::put (DiskRequest* req) {
    if (req==0) return; // Exception!
    for (DiskRequest *prv=0, *nxt=head; nxt && nxt->cyl<=req->cyl;
        prv=nxt, nxt=nxt->next);
    req->prev = prv;
    req->next = nxt;
    if (prv) prv->next = req;
    else head = req;
    if (nxt) nxt->prev = req;
    if (!cursor) cursor = req;
}

DiskRequest* DiskScheduler::get () {
    if (!cursor) return 0;
    DiskRequest* req = cursor;
    if (req->prev) req->prev->next = req->next;
    else head = req->next;
    if (req->next) req->next->prev = req->prev;
    cursor = cursor->next;
    if (!cursor) cursor = head;
    req->prev = req->next = 0;
    return req;
}
```

2. (10 poena)

```
#!/bin/bash

if [ $# -ne 4 ]; then
    echo "Nedovoljan broj parametara"
    exit 1
fi

file=$1

if [ ! -r $file ]; then
    echo "Ulazni fajl ne moze da se cita"
    exit 1
fi

voz=$2
hh=$3
mm=$4
```

```

for i in $(cat $file | grep "^$voz\ " | sed "s/^$voz\ \(.*\)/\1/"); do
    voz_hh=$(echo $i | sed "s/\([0-9][0-9]\)\.*/\1/")
    voz_mm=$(echo $i | sed "s/.*\:\([0-9][0-9]\)\.*/\1/")
    if [ "$voz_hh" -gt "$hh" ]; then
        echo $i
        exit 0
    fi
    if [ "$voz_hh" -eq "$hh" -a "$voz_mm" -gt "$mm" ]; then
        echo $i
        exit 0
    fi
done

```

3. (10 poena)

```

struct msgbuf
{
    long mtype;
    int sender;
};

void barrier(int id, int msg_box)
{
    struct msgbuf msg;

    for (int i = 0; i < NUM_PROCESS; i++) {
        if (i == id)
            continue;
        msg.mtype = i + 1;
        msg.sender = id;
        msgsnd(msg_box, &msg, sizeof(int), 0);
    }

    for (int i = 0; i < NUM_PROCESS; i++) {
        if (i == id)
            continue;
        msgrcv(msg_box, &msg, sizeof(int), id + 1, 0);
    }
}

```