Rešenja trećeg kolokvijuma iz Operativnih sistema 2, januar 2015.

1. (10 poena)

```
int fopen(const char* fname, int mode) {
  if(fname==0) return -1;
  int ret = 0;
  int pid = getPID();
  if (pid<0) return -1;  // Exception
  // Prepare the "command line":
  const int buffersz = 1024;
  char buffer[buffersz];
  ret = snprintf(buffer,buffersz,"open %d,%s,%d",pid,fname,mode);
  if (ret<0 || ret>=buffersz) return -1; // Exception
  // Send the request and get the reply:
  ret = send(FILE_LISTENER,buffer,strlen(buffer)+1);
  if (ret<0) return -1; // Exception
  ret = receive(FILE_LISTENER,buffer,buffersz);
  if (ret<0) return -1; // Exception
  if (sscanf(buffer,"%d",&ret)<=0) return -1;
  return ret;
}
```

2. (10 poena)

```
!/bin/bash

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

file=$1
cat $file | sed 's/^.\{5\}\([0-9]\).*$/\1 &/' | sort |
                                 sed 's/^[^\ ]*\ \(.*\)$/\1/'
```

3. (10 poena)

```
int main(int argc, const char **argv) {
 if (argc > 2) {
  M = atoi(argv[1]);
  N = atoi(argv[2]);
 } else
  return -1;

 int requestMsgQueueId = msgget(MESSAGE_Q_KEY, IPC_CREAT | 0666);
 int responseMsgQueueId = msgget(MESSAGE_Q_KEY + 1, IPC_CREAT | 0666);
 size_t len = sizeof(char);

 int cars = 0;
 struct requestMsg msg_buf;
 while (1) {

  if (cars < N) { // let one vehicle enter

   // msgtyp<0 - primiti prvu poruku sa najnižom vrednošću tipa koja je
   // manja ili jednaka apsolutnoj vrednosti msgtyp;
   msgrcv(requestMsgQueueId, &msg_buf, len, -M, 0);

   cars++;
   // msg_buf.mtype je isti
```

```
    msgsnd(responseMsgQueueId, &msg_buf, sizeof(char), 0);
  } else { //wait for a car to leave
   msgrcv(requestMsgQueueId, &msg_buf, len, M + 1, 0);
   cars--;
  }
 }
}
```