Treći kolokvijum iz Operativnih sistema 1
Jun 2014.

1. (10 poena)

```
int readBlock(int diskNo, BlkNo block, Byte* buffer) {
  if (diskNo<0 || diskNo>=MaxNumOfDisks) return -1; // Error
  if (disks[diskNo]==NULL) return -1; // Error
  return (disks[diskNo]->readBlock)(block,buffer);
}

int writeBlock(int diskNo, BlkNo block, Byte* buffer) {
  if (diskNo<0 || diskNo>=MaxNumOfDisks) return -1; // Error
  if (disks[diskNo]==NULL) return -1; // Error
  return (disks[diskNo]->writeBlock)(block,buffer);
}
```

2. (10 poena)

```
int isAllowed(FCB* f, unsigned long int uid, unsigned int op) {
  if (f==0) return 0; // Exception!
  unsigned int prot = f->protection;
  if (uid==f->owner)
    prot >>= 6;
  else {
    UCB* usr = getUCB(uid);
    if (usr==0) return 0; // Exception!
    if (usr->group==f->group) prot >>= 3;
  } else
    prot &= 7;
  return (op&prot)?1:0;
}
```

3. (10 poena)

```
BlockNo getFreeBlock () {
  static const int numOfEntries = blockSize/sizeof(BlockNo);

  BlockNo ret = 0;
  if (freeBlocksHead==0) return ret; // No free blocks!
  BlockNo* index = (BlockNo*)getBlock(freeBlocksHead); // Get first block
  for (int i=0; i<numOfEntries-1; i++) {
    if (index[i]==0) continue;
    ret = index[i]; // Found another block
    index[i]=0;
    return ret;
  }
  // No other blocks found in the first block, return this first block:
  ret = freeBlocksHead;
  freeBlocksHead = index[numOfEntries-1];
  return ret;
```