Rešenja prvog kolokvijuma iz Operativnih sistema 2 Oktobar 2012.

1. (10 poena) LP, MP, MP, HP, MP, HP, MP

2. (10 poena)

```
monitor server;
export acquireToken, returnToken;

var numOfTokens : integer;

procedure acquireToken ();
begin
  while numOfTokens<=0 do wait();
  numOfTokens := numOfTokens - 1;
end;

procedure returnToken ();
begin
  numOfTokens := numOfTokens + 1;
  notifyAll();
end;

begin
  numOfTokens := N;
end; (* server *)


task type client;
begin
  loop
    server.acquireToken;
    do_some_activity;
    server.returnToken;
  end;
end; (* client *)
```

3. (10 poena)

```
public class NetBuffer extends Usluga {
 public NetBuffer(String host, int port) {
  super(host, port);
  getK();
 }
 private int K;

 public void put(int d[]) {
  String message = "#put#";
  for (int i = 0; i < K; i++) {
   message += d[i] + "#";
  }
  sendMessage(message);
  receiveMessage();
 }
 public int get() {
  String message = "#get#";
  sendMessage(message);
  return receiveIntMessage();
 }
public int getK() {
  String message = "#getK#";
  sendMessage(message);
  return K = receiveIntMessage();
 }
}
```

Na serverskoj strani u klasi `Server` treba da se dodaju sledeći atributi:

```
public BoundedBuffer buff;
public final int K;

public Server(int port, int N, int K) {
  buff = new buffer(N, K);
  this.K=K;
  ...

//poziv konstruktora new RequestHandler(clientSocket,buff,K);
```

`RequestHandler` treba izmeniti na sledeći način:

```
public class RequestHandler extends Thread {
...
      buffer buff;
      int K;

...
public RequestHandler(Socket clientSocket, buffer buff, int K) {
  this.sock = clientSocket;
  this.buff = buff;
  this.K = K;
  ...
}

protected void processRequest(String request) {
  StringTokenizer st = new StringTokenizer(request, "#");
  String functionName = st.nextToken();
  if (functionName.equals("put")) {
   int d[] = new int[K];
   for (int i = 0; i < K; i++)
    d[i] = Integer.parseInt(st.nextToken());
   buff.put(d);
   sendMessage("done");
  } else if (functionName.equals("get"))
    sendMessage("" + buff.get());
   else if (functionName.equals("getK"))
    sendMessage("" + K);
 }
```