Rešenja prvog kolokvijuma iz Operativnih sistema 2 Decembar 2018.

1. (10 poena) HP5, MP4, LP2, MP3, LP1, MP1, HP6, MP5, LP3, MP3, LP1

2. (10 poena)
```
monitor TickTuck;
export tick, tuck;

  var
    bTuck : boolean;
    canTuck : condition;

procedure tick;
begin
  (* do tick *)
  bTuck := true;
  canTuck.signal;
end;

procedure tuck;
begin
  if not bTuck then canTuck.wait;
  (* do tuck *)
  bTuck := false;
end;

begin
  bTuck := false;
end;
```

3. (10 poena)
```java
public class Client {
    public int[][] doCalculation(int[][] matrix) throws IOException {
        if (matrix.length == 0 || matrix[0].length == 0) {
            return null;
        }

        Socket socket = new Socket("server.etf.rs", 5555);

        Service service = new Service(socket);

        waitInLine(service);

        sendMatrix(matrix, service);

        int[][] result = receiveMatrix(service);

        service.close();

        return result;
    }

    private void waitInLine(Service service) {
        String msg;
        int users;
        do {
            msg = service.receiveMessage();
            users = Integer.parseInt(msg);
        } while (users > 0);
    }

    private void sendMatrix(int[][] matrix, Service service) {
```

```java
            service.sendMessage(matrix.length + "");
            for (int[] row : matrix) {
                StringBuilder sb = new StringBuilder();
                for (int val : row) {
                    sb.append(val);
                    sb.append(" ");
                }
                service.sendMessage(sb.toString().trim());
            }
        }

    private int[][] receiveMatrix(Service service) {
        String msg;
        msg = service.receiveMessage();
        int numRows = Integer.parseInt(msg);
        int[][] result = new int[numRows][];
        for (int i = 0; i < numRows; i++) {
            msg = service.receiveMessage();
            result[i] = parseArrayInt(msg);
        }
        return result;
    }

    private int[] parseArrayInt(String array) {
        String[] values = array.split(" ");
        int[] ret = new int[values.length];
        for (int i = 0; i < values.length; i++) {
            ret[i] = Integer.parseInt(values[i]);
        }
        return ret;
    }
}
```
Klasa Service je data na vežbama.