

Rešenja prvog kolokvijuma iz Operativnih sistema 2

Novembar 2018.

1. (10 poena) HP5, MP3, HP3, MP1, HP1, HP7, MP5, LP1, MP3

2. (10 poena)

```
monitor TickTuck;
export tick, tuck;

var
    bTick : boolean;
    iTucks: integer;
    canTick, canTuck : condition;

procedure tick;
begin
    if not bTick then canTick.wait;
    (* do tick *)
    bTick := false;
    iTucks := 2;
    canTuck.signal;
end;

procedure tuck;
begin
    if iTucks=0 then canTuck.wait;
    (* do tuck *)
    iTucks := iTucks - 1;
    if iTucks=0 then begin
        bTick := true;
        canTick.signal;
    else
        canTuck.signal;
    end;
end;

begin
    bTick := true;
    iTucks := 0;
end;
```

3. (10 poena)

```
public class Server {
    private static final int N = 10;
    private static final int PORT = 5555;
    private List<Service> clients = new ArrayList<Service>();
    private int activeClients = 0;

    public void work() throws IOException {
        ServerSocket server = new ServerSocket(PORT);

        while (true) {
            Socket socket = server.accept();
            Service client = new Service(socket);

            addClient(client);
        }
    }
}
```

```

public synchronized void addClient(Service client) throws IOException {
    if (activeClients < N) {
        activeClients++;
        client.sendMessage("Go");
        new RequestHandler(this, client).start();
    } else {
        client.sendMessage("WaitInQueue#" + clients.size());
        clients.add(client);
    }
}

public synchronized void finishClient() {
    if (clients.size() > 0) {
        Service client = clients.remove(0);
        client.sendMessage("Continue");
        new RequestHandler(this, client).start();
    } else {
        activeClients--;
    }
}
}

public class RequestHandler extends Thread {
    private Service client;
    private Server server;

    public RequestHandler(Server server, Service client) {
        this.server = server;
        this.client = client;
    }

    public void run() {
        // The work goes here

        server.finishClient();
    }
}

```

Klasa Service (Usluga) data je na vežbama.