

1 Scripting task (20 min)

1.1 Write a Bash shell or a python script which can:

- Process a text file which has users and their properties in each line.
- Determine one by one if the ID number of the user (last column) is odd or even number if it's specified.
- Check whether that user has a routable, FQDN email address.
- If so, write a message to stdout like:

The \$ID of \$EMAIL is (even|odd) number.

- If the user has no valid email address OR user ID, the script should silently continue the next user showing a warning for the invalid parameters

The content of the source text file:

```
name, email, id
John, john_j123@domain.com, 325
Susan, ,510
Jane, jane_j121@domain.com, 131
Karl, karl_ka234@domain.com
Bert, bert_bb23@localhost, 150
```

2 Kubernetes task (2 hour)

Using tools and environments of your choice, create:

2.1 Kubernetes cluster containing:

- One master
 - One or more nodes
 - Access to kubernetes API is restricted to number of IP addresses.
- * Document creating of cluster and all needed access rights in git repository.

2.2 On the Kubernetes cluster:

- Deploy nginx ingress - <https://github.com/kubernetes/ingress-nginx/>.
- Deploy "Juice Shop" application, you can use official docker image from 'bkimminich/juice-shop'.
- Expose "Juice Shop" application inside the cluster using a service.
- Expose "Juice Shop" application to outside the cluster using the nginx ingress.

3 Docker task (20 min)

3.1 Create a custom image with the following specs:

- **Base image:** postman/newman:5.3.1-alpine
- Update/upgrade the image packages to the latest.
- Globally Install node modules: newman-reporter-csvallinone
- Install extra packages: curl zip ping
- Set the DNS explicitly to 8.8.8.8 & 1.1.1.1
- Remove the installation cache.
- Set an environment variable `NODE_PATH` to have the value `/usr/local/lib/node_modules`
- Set working directory to `/etc/newman`
- Set the entry point to newman