1- Deploy a pod named `nginx-pod` using the `nginx:alpine` image with the labels set to `tier=backend`.

2- Deploy a `test` pod using the `nginx:alpine` image.

3- Create a service `backend-service` to expose the `backend` application within the cluster on port `80`.

4- try to curl the backend-service from the test pod. What is the response?

5- Create a deployment named `web-app` using the image `nginx` with `2` replicas

6- Expose the `web-app` as service `web-app-service` application on port `30082` on the nodes on the cluster

7- access the web app from the node

8- How many Nodes exist on the system?

9- Do you see any taints on `master ?`

10- Apply a label `color=blue` to the master node

11- Create a new deployment named `blue` with the `nginx` image and 3 replicas
Set Node Affinity to the deployment to place the pods on `master` only
NodeAffinity: requiredDuringSchedulingIgnoredDuringExecution
Key: color
values: blue

12- How many `DaemonSets` are created in the cluster in all namespaces?

13- what DaemonSets exist on the kube-system namespace?

14- What is the image used by the POD deployed by the `kube-proxy` DaemonSet

15- Deploy a DaemonSet for `FluentD` Logging. Use the given specifications.
Name: elasticsearch
Namespace: kube-system
Image: k8s.gcr.io/fluentd-elasticsearch:1.20

16- Create a taint on node01 with key of `spray`, value of `mortein` and effect of `NoSchedule`

17- Create a new pod with the NGINX image, and Pod name as mosquito

18- What is the state of the `mosquito` POD?

19- Create another pod named `bee` with the NGINX image, which has a toleration set to the taint `Mortein`
Image name: nginx
Key: spray
Value: mortein
Effect: NoSchedule
Status: Running

20- Remove the taint on master/controlplane, which currently has the taint effect of NoSchedule

21- What is the state of the pod `mosquito` now and Which node is the POD `mosquito` on?