Q1) Create a Job with an image node which prints node version and also verifies there is a pod created for this job.
Ans:

```
$ kubectl create job nodeversion --image=node -- node -v
$ kubectl get job -w (press ctrl+c to exit)
$ kubectl get pod
```

```
root@Master:~# kubectl create job nodeversion --image=node -- node -v
job.batch/nodeversion created
root@Master:~# kubectl get job -w
NAME          COMPLETIONS   DURATION   AGE
nodeversion   0/1           7s         8s
^Croot@Master:~# kubectl get pod
NAME                READY   STATUS              RESTARTS   AGE
multi-cont-pod      2/2     Running             0          10m
nginx               1/1     Terminating         0          17h
nodeversion-jnjm6   0/1     ContainerCreating   0          17s
root@Master:~# kubectl get pod
NAME                READY   STATUS              RESTARTS   AGE
multi-cont-pod      2/2     Running             0          10m
nginx               1/1     Terminating         0          17h
nodeversion-jnjm6   0/1     ContainerCreating   0          39s
root@Master:~#
```

Q2) Get the logs of the job just created
Ans:

```
$ kubectl logs <pod name> // created from the job
$ kubectl logs nodeversion-jnjm6
```

```
root@Master:~# kubectl get pod
NAME                READY   STATUS        RESTARTS   AGE
multi-cont-pod      2/2     Running       0          11m
nginx               1/1     Terminating   0          17h
nodeversion-jnjm6   0/1     Completed     0          111s
root@Master:~# kubectl logs nodeversion-jnjm6
v15.12.0
root@Master:~#
```

Q3) Create a job with the image busybox which echo “Hello I am from job”
Ans:

```
$ kubectl create job hello-job --image=busybox -- echo "Hello I am from job"
```

```
root@Master:~# kubectl create job hello-job --image=busybox -- echo "Hello I am from job"
job.batch/hello-job created
root@Master:~#
```

Q4) Verify the job and the associated pod is created and check the logs as well
Ans:

```
$ kubectl get job
$ kubectl get pod
$ kubectl logs <pod name>
$ kubectl logs hello-job-947g9
```

```
root@Master:~# kubectl create job hello-job --image=busybox -- echo "Hello I am from job"
job.batch/hello-job created
root@Master:~# kubectl get job
NAME          COMPLETIONS   DURATION   AGE
hello-job     1/1           2s         54s
nodeversion   1/1           81s        6m26s
root@Master:~# kubectl get pod
NAME                READY   STATUS        RESTARTS   AGE
hello-job-947g9     0/1     Completed     0          77s
multi-cont-pod      2/2     Running       0          16m
nginx               1/1     Terminating   0          17h
nodeversion-jnjm6   0/1     Completed     0          6m48s
root@Master:~# kubectl logs hello-job-*
Error from server (NotFound): pods "hello-job-*" not found
root@Master:~# kubectl logs hello-job-947g9
Hello I am from job
root@Master:~#
```

Q5) Delete the job we just created
Ans:

```
$ kubectl delete job hello-job
```

Q7) Create the same job and make it run 10 times one after one
Ans:

```
$ kubectl create job hello-job --image=busybox --dry-run=client -o yaml -- echo "Hello I am from job" > hello-job.yaml

// edit the yaml file to add completions: 10
$ vi hello-job.yaml
```

```
apiVersion: batch/v1
kind: Job
metadata:
  name: hello-job
spec:
  completions: 10
  template:
    metadata:
      creationTimestamp: null
```

```
  spec:
    containers:
    - command:
      - echo
      - Hello I am from job
      image: busybox
      name: hello-job
    restartPolicy: Never
```

$ kubectl create -f hello-job.yaml

```
root@Master:~# kubectl create job hello-job --image=busybox --dry-run=client -o yaml -- echo "Hello I am from job" > hello-job.yaml
root@Master:~# vi hello-job.yaml
root@Master:~# cat hello-job.yaml
apiVersion: batch/v1
kind: Job
metadata:
  name: hello-job
spec:
  completions: 10
  template:
    metadata:
      creationTimestamp: null
    spec:
      containers:
      - command:
        - echo
        - Hello I am from job
        image: busybox
        name: hello-job
      restartPolicy: Never

root@Master:~# kubectl create -f hello-job.yaml
job.batch/hello-job created
root@Master:~#
```

```
root@Master:~# kubectl get pod
NAME                          READY   STATUS      RESTARTS   AGE
date-job-1616843520-gdms8     0/1     Completed   0          32s
hello-job-29fg5               0/1     Completed   0          87s
hello-job-2n4wt               0/1     Completed   0          73s
hello-job-79pwh               0/1     Completed   0          67s
hello-job-b2nfn               0/1     Completed   0          80s
hello-job-jtgfr               0/1     Completed   0          93s
hello-job-vc4h5               0/1     Completed   0          90s
hello-job-w4wlq               0/1     Completed   0          97s
hello-job-wphzj               0/1     Completed   0          70s
hello-job-wzj5j               0/1     Completed   0          84s
hello-job-x5p4x               0/1     Completed   0          77s
multi-cont-pod                2/2     Running     0          23m
nginx                         1/1     Terminating 0          17h
nodeversion-jnjm6             0/1     Completed   0          13m
```

Q8) Create a Cronjob with busybox image that prints date and hello from kubernetes cluster message for every minute
Ans:

$ kubectl create cronjob date-job --image=busybox --schedule="*/1 * * * *" -- bin/sh -c "date; echo Hello from kubernetes cluster"

```
root@Master:~# kubectl create cronjob date-job --image=busybox --schedule="*/1 * * * *" -- bin/sh -c "date; echo Hello from kubernetes cluster"
cronjob.batch/date-job created
root@Master:~#
```

Q9) Verify that CronJob creating a separate job and pods for every minute to run and verify the logs of the pod
Ans:

```
$ kubectl get job
$ kubectl get pod
$ kubectl logs date-job-<jobid>-<pod>
$ kubectl logs date-job-1616843520-gdms8
```

```
root@Master:~# kubectl get job
NAME                  COMPLETIONS   DURATION   AGE
date-job-1616843520   1/1           4s         24s
hello-job             10/10         33s        89s
nodeversion           1/1           81s        13m
root@Master:~# kubectl get pod
NAME                        READY   STATUS      RESTARTS   AGE
date-job-1616843520-gdms8   0/1     Completed   0          32s
hello-job-29fg5             0/1     Completed   0          87s
hello-job-2n4wt             0/1     Completed   0          73s
hello-job-79pwh             0/1     Completed   0          67s
hello-job-b2nfn             0/1     Completed   0          80s
hello-job-jtgfr             0/1     Completed   0          93s
hello-job-vc4h5             0/1     Completed   0          90s
hello-job-w4wlq             0/1     Completed   0          97s
hello-job-wphzj             0/1     Completed   0          70s
hello-job-wzj5j             0/1     Completed   0          84s
hello-job-x5p4x             0/1     Completed   0          77s
multi-cont-pod              2/2     Running     0          23m
nginx                       1/1     Terminating 0          17h
nodeversion-jnjm6           0/1     Completed   0          13m
root@Master:~# kubectl logs date-job-1616843520-gdms8
Sat Mar 27 11:12:07 UTC 2021
Hello from kubernetes cluster
root@Master:~#
```

Q10) Delete the CronJob and verify all the associated jobs and pods are also deleted.
Ans:

```
$ kubectl delete cj date-job
// verify pods and jobs
$ kubectl get pod
$ kubectl get job
```

```
root@Master:~# kubectl delete cj date-job
cronjob.batch "date-job" deleted
root@Master:~# kubectl get pod, job
error: arguments in resource/name form must have a single resource and name
root@Master:~# kubectl get pod
NAME                READY   STATUS        RESTARTS   AGE
hello-job-29fg5     0/1     Completed     0          3m38s
hello-job-2n4wt     0/1     Completed     0          3m24s
hello-job-79pwh     0/1     Completed     0          3m18s
hello-job-b2nfn     0/1     Completed     0          3m31s
hello-job-jtgfr     0/1     Completed     0          3m44s
hello-job-vc4h5     0/1     Completed     0          3m41s
hello-job-w4wlq     0/1     Completed     0          3m48s
hello-job-wphzj     0/1     Completed     0          3m21s
hello-job-wzj5j     0/1     Completed     0          3m35s
hello-job-x5p4x     0/1     Completed     0          3m28s
multi-cont-pod      2/2     Running       0          25m
nginx               1/1     Terminating   0          17h
nodeversion-jnjm6   0/1     Completed     0          16m
root@Master:~# kubectl get job
NAME          COMPLETIONS   DURATION   AGE
hello-job     10/10         33s        3m52s
nodeversion   1/1           81s        16m
root@Master:~#
```