Automate the process of running containerized application for exercise 7 using Kubernetes

==**Aim : To automate the process of running a containerized Java application**==
(Exercise 7: prints "advikaadhyasriss") using Kubernetes,

Follow below process:
1. Create a simple Java app.
2. Containerize it with Docker.
3. Push the image to a container registry.
4. Write Kubernetes manifests (Deployment and Service).
5. Apply the manifests to run it on a Kubernetes cluster.

Conditions:

1)docker desktop should be running

2)kubectl (minikube should be running)

Create the Java App

```java
public class samplename {
    public static void main(String[] args) {
        // Declare a variable to hold the name
        String name = "advikiaadhyasri";
        // Print the name to the console
        System.out.println("Hello, my name is " + name);
    }
```

Dockerfile

```
FROM openjdk:17
COPY HelloWorld.java /HelloWorld.java
RUN javac HelloWorld.java
CMD ["java", "HelloWorld"]
```

Step 2: Build and Push Docker Image by using this commands

```
# Build the Docker image
docker build -t your-dockerhub-username/hello-world-java .
# Push to Docker Hub (or another registry)
docker push your-dockerhub-username/hello-world-java
```

Experiment-9

Automate the process of running containerized application for exercise 7 using Kubernetes

Step 3: Kubernetes Deployment Manifest

Create a file named

hello-world-deployment.yaml:

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: hello-world-deployment
spec:
  replicas: 1
  selector:
    matchLabels:
      app: hello-world
  template:
    metadata:
      labels:
        app: hello-world
    spec:
      containers:
      - name: hello-world
        image: your-dockerhub-username/hello-world-java
        imagePullPolicy: Always
```

Step 4: Apply Manifests to Kubernetes

```
kubectl apply -f hello-world-deployment.yaml
# (Optional)
kubectl apply -f hello-world-service.yaml
```

To see Output run below commands:
```
kubectl get pods
kubectl logs hello-world-deployment.yaml
```

Output :   advikaadhyasri

Experiment-9

Automate the process of running containerized application for exercise 7 using Kubernetes