1. Please describe the processes and Linux OS layers (including kernel-level) involved, when you press the <Enter> key for this command:

$ rm ${USER}

1. Consider the scenario where a user reports that a web application is unavailable. You have been given shell access to the AWS EC2 instance hosting this application. Describe in general terms what steps you would take to investigate the cause of the outage.
2. Rewrite the Ansible role listed below to be idempotent. Suggest any other improvements.

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- name: Download terraform

get\_url: url=https://releases.hashicorp.com/terraform/0.11.7/terraform\_0.11.7\_linux\_amd64.zip dest=/tmp/terraform\_0.11.7.zip owner=root group=root mode=0644

- name: Extract terraform

command: unzip -o /tmp/terraform\_0.11.7.zip -d /usr/bin chdir=/tmp

1. Consider an EC2 instance running in an ASG in AWS cloud. Describe what type of healthcheck you can define on the ASG and what happens when it fails.
2. Write an S3 access policy for a bucket named example-bucket:
   1. to allow read only access to objects in /my-ro-path/
   2. to allow write only access to objects in /my-rw-path/

Bonus Question: Extending the above situation, describe what system changes would be necessary if the bucket was hosted by account A and the principal accessing the bucket was hosted by account B.

1. Describe what happens when building the following Dockerfile file and if it is an optimized build.

FROM gradle:4.7.0-jdk8-alpine AS build

COPY --chown=gradle:gradle . /home/gradle/src

WORKDIR /home/gradle/src

RUN gradle build --no-daemon

FROM openjdk:8-jre-slim

EXPOSE 8080

RUN mkdir /app

COPY --from=build /home/gradle/src/build/libs/\*.jar /app/spring-boot-application.jar

ENTRYPOINT ["java","-jar","/app/spring-boot-application.jar"]