Given the following table 'employees'...

| **id** | **firstName** | **lastName** | **salary** | **dept** |
| --- | --- | --- | --- | --- |
| 1 | Michael | Scott | 65 | Sales |
| 2 | Dwight | Schrute | 75 | Sales |
| 3 | Toby | Flenderson | 80 | HR |
| 4 | Jim | Halpert | 90 | Sales |
| 5 | Oscar | Martinez | 90 | Accounting |
| 6 | Angela | Martin | 75 | Accounting |
| 7 | Kevin | Malone | 70 | Accounting |
| 8 | Holly | Flax | 60 | HR |
| 9 | Creed | Branton | 70 | Quality Assurance |

* Write a query to find all data in the table

SELECT \* from employees

* Write a query to find employees with a salary over 75

SELECT \* from employees WHERE salary > 75

* Write a query to find employees whose first name contains an 'e' or whose last name begins with 'S'\

SELECT \* from employees WHERE firstName like ‘%e% or Left(lastName, 1) like ‘%S%’

* Write a query to find the first name of all employees who do not work in accounting

SELECT firstName from employees WHERE dept != Accounting

* Write a query to find the average salary of all employees whose last names begin with 'M'

SELECT AVG(salary) FROM employees where Left(lastName, 1) like ‘%M%’

* Write a query to find the highest paid salesperson

SELECT id from employees where MAX(salary)

* Write a query to combine the resultsets of any two previous queries

SELECT \* from employees WHERE firstName like ‘%e% or Left(lastName, 1) like ‘%S%’

UNION

SELECT AVG(salary) FROM employees where Left(lastName, 1) like ‘%M%

* Remove all members of accounting from the database

DELETE from employees where dept = Accounting

* Given removing the dept column from the employees table and creating a table 'department' and linking the two via a foreign key relationship

| **dept\_id** | **name** |
| --- | --- |
| 1 | Sales |
| 2 | HR |
| 3 | Accounting |
| 4 | Customer Service |

* Write a query to find the salary of the lowest paid salesperson (HINT: use a join)

SELECT id from employees where MIN(salary)

* Write a query to find the average salary of each department

SELECT id, AVG(salary) from employees JOIN Department ON employees.id=department..dept id GROUP BY department.name

* Write a query to find all possible combinations of employees and departments. How many records do you expect?

SELECT id FROM employees CROSS JOIN dapartments, 36

* Change the name of department 4 to 'Quality Assurance'

UPDATE departments set name = ‘Quality Assurance’ WHERE id = 4

* Remove both tables

Drop table employees, departments

Bash Script:

#!/bin/bash

# install git on ec2

sudo yum update -y

sudo yum install git

#install maven on ec2

sudo wget <http://repos.fedorapeople.org/repos/dchen/apache-maven/epel-apache->maven.repo -O /etc/yum.repos.d/epel-apache-maven.repo

sudo sed -i s/\$releasever/6/g /etc/yum.repos.d/epel-apache-maven.repo

sudo yum install -y apache-maven

Cloud / AWS Overview

How would you describe AWS? What is "the cloud" or "cloud computing" and why is it so popular now?

AWS provides cloud solutions to customer needs. It is a cloud platform. The cloud refers to servers you can access over the internet. It is popular because it abstracts many IT functions and saves people money.

Define Infrastructure, Platform, and Software as a Service

IAAS- provides virtualization, servers, storge and networking.

PAAS-provides IAAS + O/s, middleware and runtime.

SAAS-provides PAAS + Data and Applications.

What's the difference between a Region and an Availability Zone (AZ)?

A Region are groupings of AWS Zones worldwide.

Availability Zone is data centers containing infrastructure.

How are you charged for using AWS services? Does it vary by service?

You pay for what you use. Yes.

Different ways to interact with AWS services?

CLI and SDK.