

Machine Learning Assignment 66

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Problem 2

(a)

$$P(\text{coffee}|\text{cake}) = \frac{P(\text{coffee} \cap \text{cake})}{P(\text{cake})} = \frac{0.2}{0.4}$$

(ba)

$$P(A|B) = \frac{P(A \cap B)}{P(B)} = \frac{0.2}{0.35}$$

(bb)

$$P(C|B) = \frac{P(C \cap B)}{P(B)} = \frac{0.15}{0.35}$$

(bc)

$$P(B|A \cup C) = \frac{P(B \cap (A \cup C))}{P(A \cup C)} = \frac{0.25}{0.7}$$

(bd)

$$P(B|A \cap C) = \frac{P(B \cap (A \cap C))}{P(A \cap C)} = \frac{0.1}{0.2}$$

(ca)

$$P(2 \leq X \leq 5) = \frac{3}{10}$$

(cb)

$$P(X \leq 2|X \leq 5) = \frac{P(X \leq 2 \cap X \leq 5)}{P(X \leq 5)} = \frac{0.2}{0.5}$$

(cc)

$$P(3 \leq X \leq 8 | X \geq 4) = \frac{P(4 \leq X \leq 8 \cap X \geq 4)}{P(X \geq 4)} = \frac{0.4}{0.6}$$

Problem 3

Introduction

1. 🤖

Read the notes about this table. Observe the result of running this SQL command to show the name, continent and population of all countries.

```
SELECT name, continent, population FROM world
```

Submit SQL

Restore default

Correct answer

name	continent	population
Afghanistan	Asia	32225560
Albania	Europe	2845955
Algeria	Africa	43000000
Andorra	Europe	77543
Angola	Africa	31127674
Antigua and Barbuda	Caribbean	96453
Argentina	South America	44938712

Large Countries

2. 🤖

How to use WHERE to filter records. Show the name for the countries that have a population of at least 200 million. 200 million is 200000000, there are eight zeros.

```
SELECT name FROM world
WHERE population >= 200000000
```

Submit SQL

Restore default

Correct answer

name
Brazil
China
India
Indonesia
Nigeria
Pakistan
United States

Per capita GDP

3. 🤖

Give the name and the per capita GDP for those countries with a population of at least 200 million.

HELP: How to calculate per capita GDP

per capita GDP is the GDP divided by the population GDP/population

```
SELECT name, gdp/population FROM world
WHERE population >= 200000000
```

Correct answer

name	gdp/population
Brazil	9721.37
China	8724.3064
India	1891.7811
Indonesia	3804.7723
Nigeria	1822.8862
Pakistan	1377.0363

South America In millions

4. 😊

Show the **name** and **population** in millions for the countries of the **continent** 'South America'. Divide the population by 1000000 to get population in millions.

```
SELECT name, population/1000000 FROM world
WHERE continent = 'South America'
```

Submit SQL

Restore default

Correct answer

name	population/10..
Argentina	44.9387
Bolivia	11.4699
Brazil	211.4426
Chile	19.1072
Colombia	49.3857
Ecuador	17.4729
Guyana	0.7828

France, Germany, Italy

5. 😊

Show the **name** and **population** for France, Germany, Italy

```
SELECT name, population FROM world
WHERE name IN ('France', 'Germany', 'Italy')
```

Submit SQL

Restore default

Correct answer

name	population
France	67076000
Germany	83149300
Italy	60238522

Templates, Exceptions, and Files

XP 332

Function Templates

1/8

6 questions

✓

Exceptions

5/8

3 questions

✓

Module 8 Quiz

7 questions

✓

Function Templates with Multiple Parameters

2/8

4 questions

✓

More on Exceptions

6/8

3 questions

✓

Class Templates

3/8

5 questions

✓

Working with Files

7/8

3 questions

✓

Template Specialization

4/8

3 questions

✓

More on Files

8/8

3 questions

✓

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