

Green Mathematics for Machine Learning

Bayesian Creatures

Lesson 1: Sets, Worksheet 1

1) $S = \{a, b, c, d, e, f, b, g\}$

What is wrong with this set?

The element **b** is repeated.

2) Is $\{a, b, c\}$ the same set as $\{b, a, c\}$?

YES NO

3) If B is the subset of A, then A is the

superset of B.

4) If $A = \{1, 2, 4, 8, 16, 32, 64\}$ and $B = \{1, 2, 5, 8\}$, is B a subset of A?

YES NO

5) Sets cannot have other sets as members.

TRUE FALSE

6) $A = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

Write the subset B such that B contains all the elements of A that are even numbers.

$B = \{2, 4, 6, 8, 10\}$

7) If $A = \{\{a, b\}, c, \{d, e\}, \{f, g, h\}\}$, what is $|A|$?

$|A| = 4$

8) If $A = \{2, 3, 5, 7, 11\}$ and the subset $B = \{3, 7, 11\}$, what is the ratio of $|B|$ to $|A|$?

3/5 or 0.6

9) Which of these statements says “R is a subset of S”?

$R \subset S$ $S \subset R$

10) Is $\{a, b, \{c\}, d\}$ the same as $\{\{a\}, b, \{c\}, d\}$?

YES NO