MapReduce for k-means

5 questions

1 point

1.
Suppose we are operating on a 1D vector. Which of the following operation is **not** data parallel over the vector elements?

- Add a constant to every element.
- Multiply the vector by a constant.
- Increment the vector by another vector of the same dimension.
- Compute the average of the elements.
- Compute the sign of each element.

1 point

2.
(True/False) A single mapper call can emit multiple (key,value) pairs.

- True
- False

1 point

3.
(True/False) A single reducer call emits only one (key,value) pair.

- True

○ False

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1 point

4.

(True/False) Suppose we are running k-means using MapReduce. Some mappers may be launched for a new k-means iteration even if some reducers from the previous iteration are still running.

○ True

● False

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1 point

5.

Consider the following list of binary operations. Which can be used for the reduce step of MapReduce? Choose all that apply.

☐ OP1(x1,x2) = MAX(x1, x2)

☐ OP2(x1,x2) = x1 + x2 - 2

☐ OP3(x1,x2) = 3*x1 + 2*x2

☐ OP4(x1,x2) = x1^2 + x2

☐ OP5(x1,x2) = (x1 + x2) / 2

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