Name(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Part 1 - Reflection

After collaboratively decomposing a problem into steps on note cards, reflect on the experience by answering the questions below.

1. How did you communicate with your team members?

1. What were the advantages and disadvantages of creating the final steps without speaking?

1. Were the final steps better than any one person’s steps? Why or why not?

1. What did you observe about the depictions of steps? How were they the same? How were they different?

1. What was the hardest part of this activity? Why?

1. Describe what it means to decompose a problem.

STOP

Wait for your teacher to provide directions for the next steps in this lesson.

Part 2 – What is an algorithm?

Answer the questions below after viewing *What’s an Algorithm?* <http://ed.ted.com/lessons/your-brain-can-solve-algorithms-david-j-malan>

1. Define “algorithm.”

1. Consider the table below.
2. Think about each problem.
3. Indicate if you think it would be easy or hard for a computer to solve by placing a check in the corresponding column.
4. Justify your choice. Use what you learned about algorithms and decomposing problems in this lesson.
5. Add 2 easy to solve problems and 2 hard to solve problems to the list. Justify your choices.

|  |  |  |  |
| --- | --- | --- | --- |
| Problem  | Easy  | Hard  | Justify categorization  |
| Balancing a bank statement  |   |   |   |
| Playing random songs on an mp3 player  |   |   |   |
| Identifying an animal as a  dog in a photograph  |   |   |   |
| Sorting friends names in a contact list  |   |   |   |
| Planning city evacuation routes  |   |   |   |
| Determining the winner of a game  |   |   |   |
| Tracking shipped packages  |   |   |   |
| Grading student essay assignments  |   |   |   |
| Translating spoken words into another language  |   |   |   |
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