

Paper Coding Treasure Hunt

Materials needed:

- 16 blank note cards
- Notebook paper
- Pen or Pencil

1. On one note card, draw a treasure chest or write the word **Treasure**.
2. On a second note card, write the word **Start**.
3. Now lay all the note cards, including the **Treasure** and **Start** cards, in a square, with 4 note cards going across and 4 going down. It doesn't matter where you place the **Treasure** or **Start** cards as long as they are not right next to each other.
4. Your goal is to write a very simple code to get your friend from the **Start** card to the **Treasure** card. On your notebook paper, write the word **Start**. This is the first step of your code.
5. Look at where the **Start** card is and determine what the second step should be. On the next line of your paper, draw an arrow to show your friend which way to go.
6. Continue using arrows to show which way to go to get to the **Treasure**. You should draw one arrow per line on the notebook paper. Each arrow represents moving one note card. So, a
← means to move one note card to the left, and a ↑ means to move one note card up.
7. At the end of your code, write **Stop**. This tells your friend they are finished.
8. When you are finished writing your code, flip the **Treasure** card over so it is hidden.
9. Have a friend (or brother or sister) follow your code. Can they find the hidden **Treasure**? If not, is there a problem with your code? Check it and rewrite it if needed.



In this activity you wrote out a series of steps for your friend to follow. These steps were written in a specific sequence. Writing a sequence is one of the basic steps of computer programming. Your friend was acting as the computer as they followed your code.

- Try doing this with 25 cards instead of 16. This will allow you to have more steps in your sequence.
- Mix up the cards and write a new code. This time instead of using an arrow for every separate step, try combining similar steps. This is called repetition. For example, instead of → → → → try writing → (3) to mean your friend should go 3 note cards to the right.