

Each fun problem is worth 2 Extra Credit points.

Due: 26 January 2017 (Friday) before 11:59pm on gradescope ([gradescope.com](https://www.gradescope.com)).

On Bamf Street, there are 5 houses in row. Each house is a different color and the owners each have a unique name, drink they prefer, fruit they grow, and musical instrument they play. On his daily walks around the neighborhood, Alan Turing walks past the houses on Bamf Street and has noted the following:

- Ada Lovelace lives in the first house.
- Ada Lovelace lives next to the red house.
- Grace Hopper lives in the white house.
- The green house's neighbour to the left is the yellow house.
- The owner of the green house drinks coffee.
- The person living in the middle house drinks beer.
- Shafi Goldwasser drinks tea.
- The person who grows peaches plays the trumpet.
- The person who grows avocados has a neighbour who drinks wine.
- The person who grows avocados lives next to the one who plays the cello.
- The person who grows berries drinks water.
- The person who grows cherries lives in a blue house.
- Dorothy Denning grows pears.
- The person who plays the piano lives next to the one who grows cherries.
- Frances Allen plays the flute.

Just the other day, as Alan Turing was walking along Bamf Street, he heard someone playing bongos. When he returned home, he sat down with a pencil and some paper and was able to determine which of the 5 people on Bamf Street plays the bongos.

Who plays the bongos?¹

Solution

The answer was generated by creating a 5 x 6 spreadsheet. Every option was listed in the proper category. Each item that pertained to a house was logically ruled out until only one remained for each house.

Table 1: Neighborhood					
House #	1	2	3	4	5
Name	Ada Lovelace	Shafi Goldwasser	Grace Hopper	Frances Allen	Dorothy Denning
Color	Blue	Red	White	Yellow	Green
Fruit	Cherries	Avacadoes	Peaches	Berries	Pears
Drink	Wine	Tea	Beer	Water	Coffee
Instrument	Cello	Piano	Trumpet	Flute	Bongos

Dorothy Denning plays the bongos in house 5.

¹The complete answer will paint the full picture: who lives where and what is their associated color, drink, fruit, and musical instrument.