

DETECTION

# Fraud Detection

Every time you go online, you produce a **digital footprint**.

This is the data created with every email, web search, online purchase, etc.

**Fraud Detectives** analyze this data to monitor for signs of fraud.

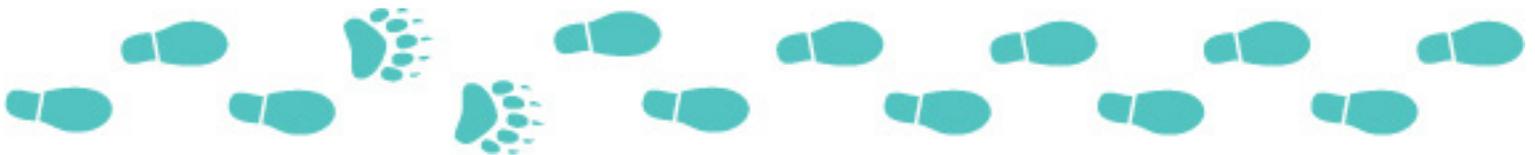
But what is **fraud**? Write or draw your ideas here.

Digital Footprint  
a trail of data you create while using the Internet



If you said a fake, or someone pretending to be someone else, you are correct!

Take a look at the footprints below.



Circle the prints you detect are possible examples of fraud.

Now imagine you are the **Fraud Detective**.

It's your job to analyze patterns and look for when something doesn't fit the pattern



Fraud  
wrongful deception for personal or financial gain

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Let's look at the online purchases made by three customers.



Customer	Do you suspect fraud?	Why or why not?
A		
B		
C		

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# Fraud Detection

Still not sure if there is fraud?

Let's show the data for each customer on a graph and look at the data clusters.

A **data cluster** is a group of related information, in this case, about customer purchases.

**Which graph is the best match for each customer's purchases?**

**Look back at the photos and write the Customer letter below each one.**

GRID 1

Customer \_\_\_\_\_

GRID 2

Customer \_\_\_\_\_

GRID 3

Customer \_\_\_\_\_

● How often are soccer-related items purchased?

▲ Where are the soccer-related items purchased?

■ What type of soccer-related items are purchased?

How did you do? Check your answers below.

GRID 1	GRID 2	GRID 3
<p>This graph shows one point far away from all the others. This is a purchase that is outside the cluster. It does not fit the pattern. It is possible fraud! Customer B bought three soccer items and a telescope? This purchase does not seem to fit the pattern.</p>	<p>This graph shows all of the points clustered together. They all fit the pattern. No fraud here! Customer A bought four items all related to soccer. These purchases all fit the pattern.</p>	<p>This graph shows one point slightly removed from the cluster. When we investigate further, we see that Customer C bought three soccer items and a picnic cooler. Is it fraud? But couldn't this be used for soccer practice? Use your intuition!</p>

You are a Girls4Tech Fraud Detective!



Certificate of Achievement

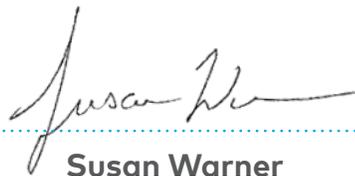
# Congratulations!

You are a certified

**girls4tech**   
FRAUD DETECTIVE



**Ajay Banga**  
CEO, Mastercard



**Susan Warner**  
Founder, Girls4Tech