

## MDM4U Final Project Problem Phase

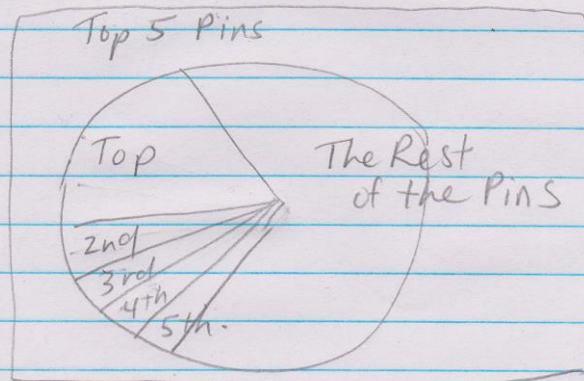
### Overall Category

- Topic : 4 Digit Bank PINs
- While many people believe that debit card PINs are secure, I think they are very vulnerable to hackers
- My project will investigate:
  - patterns found in 4 digit PINs
  - the impact of length on hackability
  - the probability of hacking certain PINs

### Question #1

- What are the 5 most common PINs?
- How common are the 5 most common PINs?

- Analysis Cluster: Probability
- Graph: Pie Chart



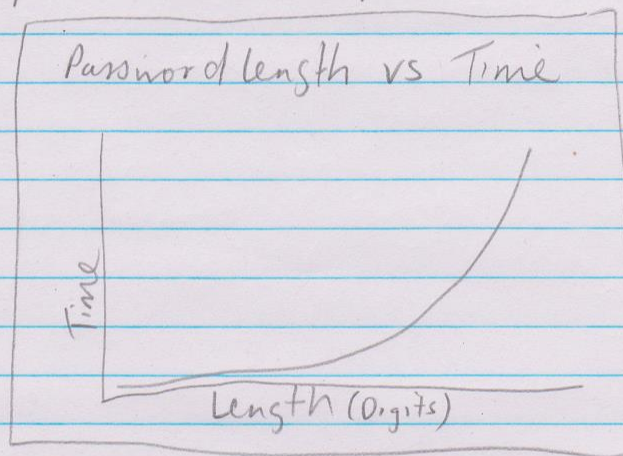
- Data Source : [datagenetics.com/blog/september32012/index.html](http://datagenetics.com/blog/september32012/index.html)

## Question #2

- How does PIN length change hacking time.  
↑ Pin length → ↑ Hacking time

→ Analysis Cluster: 2 Variable

→ Graph: Scatterplot



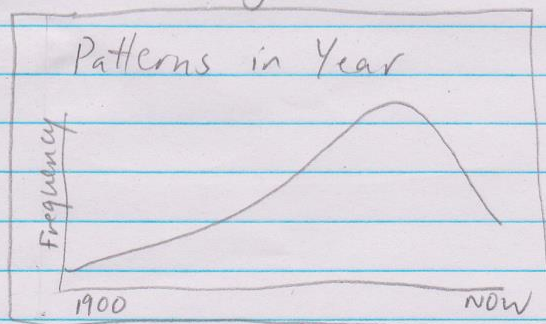
→ Data Source: [howsecureismypassword.net](http://howsecureismypassword.net)

## Question #3

- What patterns exist in the year (19XX, 20XX) based PINs?

→ Analysis Cluster: 1 Variable (Mean)

→ Graph: Histogram



→ Data Source: [datagenetics.com/blog/september32012/index.html](http://datagenetics.com/blog/september32012/index.html)

## Bibliography

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September 2012. [datagenetics.com/blog/september32012/  
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General Hacking Code Breaking from:

→ Singh, Simon. The Code Book, Anchor Books: 2000.

Password Length Analysis from:

→ Small Hadron Collider, How Secure Is My Password,  
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