FNCE 100
Assignment 2

1. Mean S&P500 1.103%
Mean T-bills 0.005%

2. Growth of $1 ⇒ $1870.23

3. 
<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Devn</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAAP</td>
<td>2.02%</td>
<td>6.91%</td>
</tr>
<tr>
<td>F</td>
<td>0.65%</td>
<td>7.67%</td>
</tr>
<tr>
<td>WMT</td>
<td>0.64%</td>
<td>4.49%</td>
</tr>
<tr>
<td>GS</td>
<td>0.72%</td>
<td>7.82%</td>
</tr>
<tr>
<td>XRT</td>
<td>1.45%</td>
<td>4.42%</td>
</tr>
</tbody>
</table>

4. 
\[
\begin{array}{c|cc}
   & R^G_{(month)} & R^G_{(annual)} \\
   \hline
   WMT & 0.54% & 6.71% \\
   XRT & 1.35% & 17.84% \\
\end{array}
\]

- differences are similar for WMT and XRT as volatilities are similar.

5. Portfolio 40% AAAPL and 60% GS:
   Std Devn = 6.04%
   - lower than SD's of both stocks
   - driver = diversification
6. Mean (S&P500 Return - T-bill Return) = 1.098%
or approximately 13.2% annualized

• This number is based on a time period with a strong up market and seems too high to use as the market risk premium.

7. Betas
   - AAPL 0.85
   - F 1.31
   - WMT 0.42
   - GS 1.75
   - XRT 1.08

8. Portfolio with 42.46% in S&P500 and 57.54% in T-bill has beta same as WMT

\[ \beta_{WMT} = 4.49\% \quad \sigma_{\text{port}} = 1.41\% \]

Difference due to Walmart having non-systematic risk that can be diversified away.
9. August 2015:  Return WMT: -9.39%  
    \[ \beta_{\text{WMT}} = 0.4246 \]
    Return S&P500: -6.05%  
    Return Thrill: 0.00%  

\[ E(R_{\text{WMT}}) = R_F + \beta_{\text{WMT}} (E(R_\text{M}) - R_F) \]
\[ = 0.0 + 0.4246 (-6.05 - 0.0) \]
\[ = -2.57\% \]

Unexpected = Actual - Expected Return  
\[ = -9.39 - (-2.57) \]
\[ = -6.82\% \]

Explanation: In mid August Walmart announced that cost and margin pressures would lead to reduced learning estimates.