*Session 4: Assignment 9*

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1. Introduction

This assignment will help you to consolidate the concepts learnt in the session.

1. Problem Statement

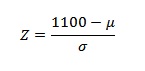
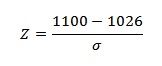
**Problem Statement 1:**

You take the SAT and score 1100. The mean score for the SAT is 1026 and the standard

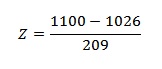
deviation is 209. How well did you score on the test compared to the average test taker?

**Note: Solution submitted via github must contain all the detailed steps.**

**3. Output:**

**Step 1**: The X-value is SAT score, 1100.  
[](http://www.statisticshowto.com/wp-content/uploads/2013/08/CALCULATE-A-Z-SCORE-1.jpg)  
**Step 2**: Put the mean, μ, into the z-score equation.   
[](http://www.statisticshowto.com/wp-content/uploads/2013/08/CALCULATE-A-Z-SCORE-2.jpg)

**Step 3**: Write the standard deviation, σ into the z-score equation.

[](http://www.statisticshowto.com/wp-content/uploads/2013/08/CALCULATE-A-Z-SCORE-3.jpg)

**Step 4**: Calculate Calculate the answer using a calculator:

(1100 – 1026) / 209 = 0.354

**This means the score 1100 is 0.354 Standard Deviation above the mean.**

**Step 5: (**OR**)** From [Z-table](http://www.statisticshowto.com/tables/z-table/) give the value to see percentage of test-takers scored below 1100.

A Z-score of 0.354 is **0.1368 + 0.5000 = 0.6368 or 63.68%**