## **Random Variable Formal Definition**

What is a random variable (formal definition)

1. A random variable is a function which maps each outcome in to a value
2. In the previous example, G (or ) maps each student in to a value: A, B or C
3. The event Grade=A is a shorthand for the event
   1. In other words, All the elements such that when you apply the answer is A
   2. Grade is a random variable
   3. P(grade = A) =
   4. In the context of our example 
4. This also applies to multiclass classification
   1. Mapping one Letter to its respecting vowel, and consonant.
5. Here, it would be P(Consonant=स) and P(Vowel = ใ)