

# W200 Python Fundamentals for Data Science, UC Berkeley MIDS

## Project 1: High School Gokudo - The Dragon of Shinjuku

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### Project Description

In this project, I am trying to create an old-school RPG game with some 90's vibes and features. The main character is a hot-headed high school student, who has a big heart and a strong sense of justice. The main character just recently transferred to the worst high school in the Shinjuku area in Japan. The school is full of violence, disrespect, drugs, and a bunch of other issues. The main character's goal is to become the most powerful kid and bring peace and justice to the school. To become such a character, the student has to defeat several villains, including minions and bosses, who occupy their own corners in the school. The player must travel to different corners of the school and defeat the bosses. If the bosses are too strong, the player should practice their skills by defeating minions and gain strength (such as HP, MP, and damage power). One could also use items to recover HP and MP. The level along with the abilities of the player will grow after defeating villains. Let's help the main character bring peace and love back to the school!

### Classes

*Character:* The character class defines the settings of the main player, minions, and bosses. The class includes attributes like level, skills and damage, nature attribute, HP, and MP. The class method includes basic attack, use(skills) and apply (items) and rest.

*Skill:* The skill class contains the actions/skills that a character can use to do damage to opponents or self heal. Each skill has a chance of success or accuracy. There are two normal damaging skills and one ultimate damaging skill. However, the ultimate skill has higher damage but lower accuracy and higher MP cost.

*Weapon:* The weapon class defines the weapons that the player and villains can use in battles. The attributes include additional damage, additional or reduced natural attribute damage, and durability. The methods include equip, change, repair, and break.

*Item*: The item class describes the items that can be used to self-heal and increase MP. Each item has different HP and MP recovery levels and amount.

*Corner*: The corner class contains attributes such as description of the territory of the bosses. If the corner is conquered, an attribute will be used to label the completion of the stage. The method in the class includes special effects of the corners that increase or decrease certain abilities of the characters.

## Interaction with the Model

The interaction between the player and the model is governed by the defined classes listed in the document. When the story, which will be defined in a main() function, continues, the player needs to control the main character using command line inputs. For example, the player can travel through different corners and fight with different bosses, or use different items and equip different weapons. The inputs will then be passed into the defined classes of objects and generate outputs/results indicating winning or losing the game. The game will conclude once the player completes all the stages/corners.

## \*Inputs and Outputs of Classes

