

Object Oriented Programming with Python

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Final Session

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Final Project (presentation May 5)

Text-Based Computer Games

Este es un tipo de juego para computadora basado en texto ingresado por el usuario y con una serie de instrucciones. No es necesario una interfaz gráfica avanzada. Para este juego tenemos los siguientes requerimientos:

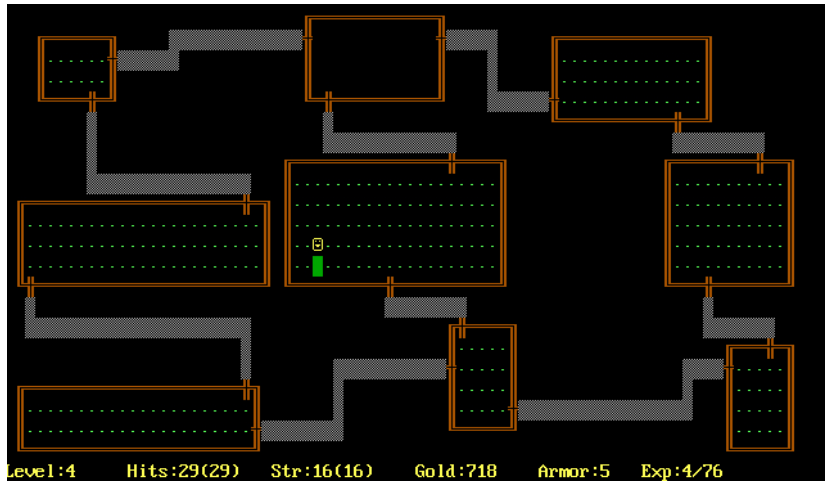
- Agregar una descripción sobre su idea del juego.
- Diseña tu idea del juego (mapa, trampas, enemigos, puertas, pasajes, etc. . .).
- Diseña un diagrama de clases sobre todos los objetos que agregarás en el juego.
- Agregar unittest para validar los posibles inputs y comportamiento del juego.
- Agregar error handling, en caso de existir algún problema o excepción el juego debe continuar.

Extra Points:

- More than one level in the game (some option to pass the next level).
- Enter configuration by console in oneline
- A helper for command line.

An *example* of how we can play this kind of games.

Image example



Questions

- How to mock reader file

You can use the following decorator (thanks to Dennis Gamboa)

```
@patch("builtins.open", mock_open(read_data=DATA_EMPTY))
```

Implement Bank registration

- Design class diagram
- Implement classes according diagram
- Review Polymorphism

Python usages and refs (1/3)

- Web Development

Python can be used to make web-applications at a rapid rate. Some of the most well-known frameworks are Django and Flask.

- Game Development

Python has its own library to develop games and is PyGame that provides functionality and a library for game development.

Python usages and refs (2/3)

- Machine learning & AI

We make the computer learn based on past experiences through the data stored or better yet, create algorithms which makes the computer learn by itself Python has the following packages for this: Pandas - NumPy and Scikit-Learn

- Data science and Data Visualization

Data is money if you know how to extract relevant information which can help you take calculated risks and increase profits. You study the data you have, perform operations and extract the information required. Libraries such as Pandas, NumPy help you in extracting information.

You can even visualize the data libraries such as Matplotlib, Seaborn.

Python usages and refs (3/3)

- Desktop GUI

We use Python to program desktop applications. There are some other useful toolkits such as the, Kivy, PYQT that can be used to create applications on several platforms.

- Web Scraping Applications

Python is a savior when it comes to pull a large amount of data from websites which can then be helpful in various real-world processes such as price comparison, job listings, research and development and much more.

Python has BeautifulSoup which we use to pull such data.