

University of Puerto Rico  
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Assignment 6  
Final Report

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## Language Overview:

This language provides basic functionality to create local servers and allow communication between clients connected. Our approach was to make it as declarative as possible and functional. With some simple lines of code, you can make your own server and connect clients to it via sockets. We programmed everything with Python and the main library used was PLY which gave us a huge advantage of the tools necessary to make this language possible.

## Syntax Definitions:

IMPORTANT: When trying to change settings of a server or client do it before starting it up. If you want to change settings and you already started a server or client, end the connection and start a new one with desired settings.

- **SET\_SERVER\_PORT *PORT***
  - With this command you can set the port in which the server will listen for connections before starting the server. *PORT* being the argument which will be the port number. This number needs to be greater than 1023 or this will give you an error.
- **SET\_CLIENT\_PORT *PORT***
  - With this command you can set the port in which the client will try to connect to the server before starting the client. *PORT* being the argument which will be the port number.
- **GET\_SERVER\_PORT**
  - With this command you can get the current port set for the server.
- **GET\_CLIENT\_PORT**
  - With this command you can get the current port set for the client.
- **START\_SERVER**
  - With this command you can start the server with default port 10000 and anonymity turned off.

- *START\_SERVER PORT BOOL*
  - This command will attempt to start the server using the *PORT* specified. *PORT* needs to be greater than 1023. Also, you have to give it a *BOOL* (true or false) which in this case will be if you want anonymity mode on or off.
- *START\_CLIENT*
  - This command will start a client with the default port 10000.
- *START\_CLIENT PORT*
  - This command will attempt to start the client using the *PORT* specified.
- *ANONYMITY BOOL*
  - Anonymity will hide the IP and port of the client sending the messages. With this command you can change if the server will have anonymity mode turned on or off.
- *FINISH*
  - When in the main program you can use this command to exit.
- *END\_SESSION*
  - When inside a client you can send command *END\_SESSION* to terminate the client.