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**PyConnect**

PyConnect is a language aimed at simplifying communication with devices by allowing the creation of servers and clients in very few steps. It makes use of Python libraries to achieve this such as socket, threading, pickle and PLY. The socket library was used to create the sockets responsible for allowing the communication in the clients and servers created—it establishes the socket in the respective connections and either listens or connects, according to its client or server nature. It also is the main medium from which both processes will communicate themselves, as it uses the socket’s buffer. PyConnect allows sending messages to all the users connected in a server or to specific clients in the server.

It is defined in the following way:

**Tokens:**

Character ::= a-z | A-Z

Digit ::= 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |9

Operators ::= : | ,

Ip ::= \b((([0-9]|[1-9][0-9]|1[0-9]{2}|2[0-4][0-9]|25[0-5])(\.)){3}([0-9]|[1-9][0-9]|1[0-9]{2}|2[0-4][0-9]|25[0-5]))\b

**Grammar:**

run\_command ::= create\_server

| create\_client

| allow\_conn

| show\_info

| close\_connection

| send\_message

create\_server ::= initiate server : {address Ip ,} port Int , name string

create\_client ::= connect to server : address Ip , port Int

allow\_conn ::= allow connection in String : Int

show\_info ::= show clients info in String | show String info

close\_connection ::= close connection : String { in String }

send\_message ::= send message { to String } : String

Int ::= Int ::= Digit+

String ::= “ Character {Character | Digit | Operators}\* ”

**How to run it:**

Run the python file called pyCon\_parser.py. It will initiate a loop taking input from the console. Typing in “exit” will close the program.

Functions:

Initiate a server: