University of Puerto Rico

Mayaguez Campus

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SBL+
Server Based Language

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Syntax Definition: SBL+

Tokens

ID	::=	(a-z | A-Z | _) (a-z | A-Z | _ | 0-9)*
NUMBER	::=	(0-9)+
STRING	::=	" (.*?) "
ASSIGN	::=	:=
FUNCTION	::=	ID ["CREATE"]
			ID ["LISTEN"]
			ID ["RECEIVE"]
			ID ["SEND"]
			ID ["CLOSE"]
			ID ["DESTROY"]
			ID ["RUN"]
			ID ["PRINT"]
			ID ["SHOW"]
			ID ["EXIT"]

Grammar

declaration	::=	statementList
statementList	::=	function "," statementList
			assignment "," statementList
			statement
statement	::=	function
			assignment
assignment	::=	ID ASSIGN STRING
			ID ASSIGN NUMBER
			ID ASSIGN ID
			ID ASSIGN function
function	::=	FUNCTION "{" argumentList "}"
argumentList	::=	argument ":" argumentList
			argument
argument	::=	ID
			NUMBER
			STRING
			function

| | filename
| | empty

filename   ::=   ID "." ID

empty   ::=   ε

Built-in Functions:

CREATE – Creates a local server by opening a socket.

LISTEN – Blocks the system until it establishes a connection.

RECEIVE – Accepts an incoming message from an external device.

SEND – Sends a message to the external device using previously established connections.

CLOSE – Closes the connection with the external device.

DESTROY – Shuts down given server.

RUN – Runs an input file with .sbl format as a script.

PRINT – Prints a message, number or variable passed as argument.

SHOW – Prints all available objects.

EXIT – Shuts down the program itself.