# Readme File

## Programming Language: Espresso

## 1: Valid Keywords

- **Read:** This keyword reads a variable name and prompts a message asking for the value of that variable.

- **Print:** This keyword prints the value of variable or expression that is written after print keyword.

- **Variable Name:** There are 48 valid variable names in Espresso language. These are uppercase and lowercase English Alphabets.

**Note: All the tokens should be single space separated**

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## 2: Valid Datatypes
- **Integer:** The only valid data type in Espresso is Integer Numbers. It will give InputMismatch Syntax error if any other datatype variable is used in it.

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## 3: Valid Statements:

<mark>Left hand side = Right hand side</mark>

- **Assignment Statement:** Left hand side of this statement should be valid variable and Right hand side of this statement should be an Valid Infix Expression Only.

- **Input Statement:** Left hand side should be keyword read and Right hand side should be a valid variable

- **Output Statement:** Left hand side should be keyword print and Right hand side should be an infix expression or just a defined variable.

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## 4: Valid Operators: There are four valid operators in Espresso

- + Addition
- - Subtraction

- ▪ * Multiplication
- ▪ / Division
- ▪ = Assignment

# 5: Functionality:

- ▪ The Espresso Language serves the functionality of calculating the expressions. It can manipulate any kind of infix expression. The idea is to create a language that helps students who require severe use of calculation in their course works. They can write a simple code in Espresso and customize the order of calculation through it.

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# 4: Syntax Errors:

- ▪ **Invalid data type:** This error occurs when a user tries to enter a value that is not an integer.

- ▪ **Invalid Operator:** This error occurs when a user uses an operator that is not supported by the Espresso Language.

- ▪ **Invalid Infix Expression:** This error occurs when an infix expression has more than one consecutive brackets, Invalid Operator, Unary Operators.

- ▪ **Invalid Keyword:** This error occurs when an user writes a keyword that is not supported by Espresso Language

# 5: Undefined Variable Error:

- ▪ **Undefined Variable:** This error occurs when a user tries to use a valid variable, but it has not been initialized yet.

*Extra:*
*Main function is located in ESPInterpreter.java class*