

# Variables, data types, statements, & expressions

Site: [TMT Bangladesh](http://tmt-bangladesh.com)

Course: Introduction to Scientific Programming

Book: Variables, data types, statements, & expressions

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Date: Saturday, 13 March 2021, 10:09 PM

# Description

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# Variables

A variable is like a labeled box that can store values. Defining variables and giving them proper names is essential to make your program readable.



For instance,

```
>> a = 1
```

This can be read as "***a is a variable that holds the value 1***" or "***assign the value 1 to variable a***".

# Expressions

An expression is a combination of operands and operators. Operands can be literals or variables.

An example of an expression is:

```
>> (5 + 9) * (15 - 7)
```

# Data Types

Data types are used to specify the category of data objects. Python has inbuilt basic object types for:

- numbers (type can be ***integer*** or ***float***)
- text (type is a ***string***)
- truth values (type is ***boolean***)

Most programming languages like C++, Java, etc require the programmer to declare the type of variables. However, Python is a dynamically typed language, meaning you don't have to specify the data type of your variables. The Python interpreter infers what is the type of each expression.

# Presentations and Exercises

## Recorded Lectures

- [Variables & Data types](#)
- [Statements & expressions](#)

## Presentations

- [SL\\_ISC\\_02\\_variables\\_and\\_data\\_types](#)

## Exercises

- [Exercise\\_ISC\\_P02\\_Variables\\_datatypes\\_statements\\_and\\_expressions](#)