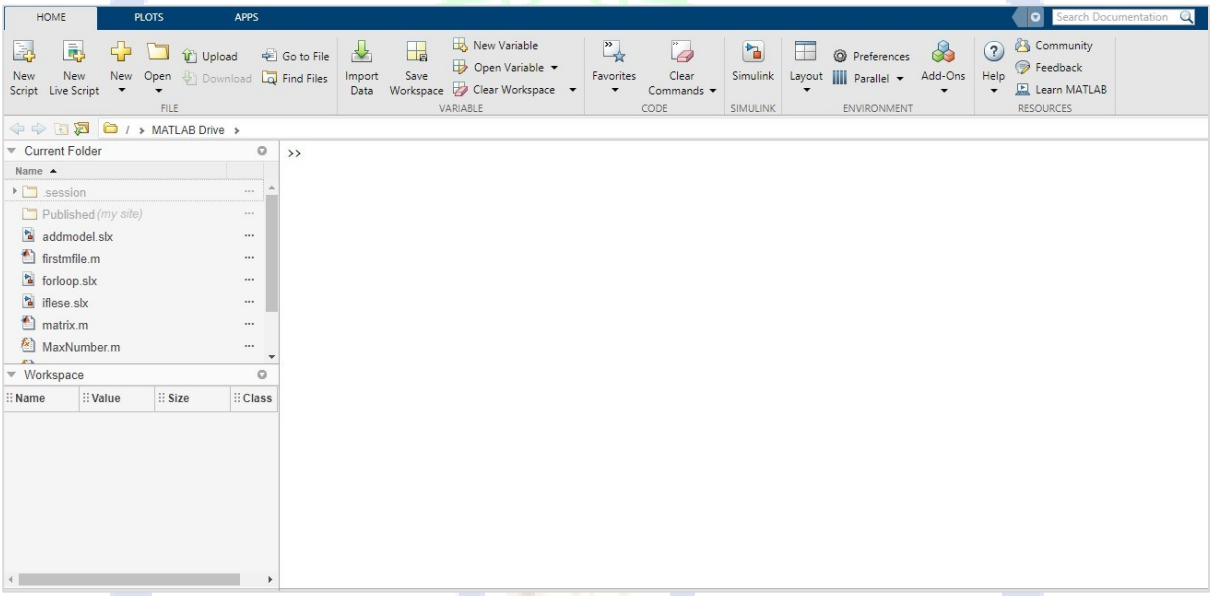
الكلية	الهندسة
القسم	الكهرباء
المادة باللغة الانجليزية	MATLAB Simulink
المادة باللغة العربية	ماتلاب
المرحلة الدراسية	الثالثة
اسم التدريسي	قصي حاتم عيسى
عنوان المحاضرة باللغة الانجليزية	Starting Simulink
عنوان المحاضرة باللغة العربية	بدء البرنامج
رقم المحاضرة	3
المصادر والمراجع	https://www.mathworks.com/help/simulink/getting-started-with-simulink.html

3. MATLAB Simulink — Starting Simulink

In this chapter, we will understand about using Simulink to build models.

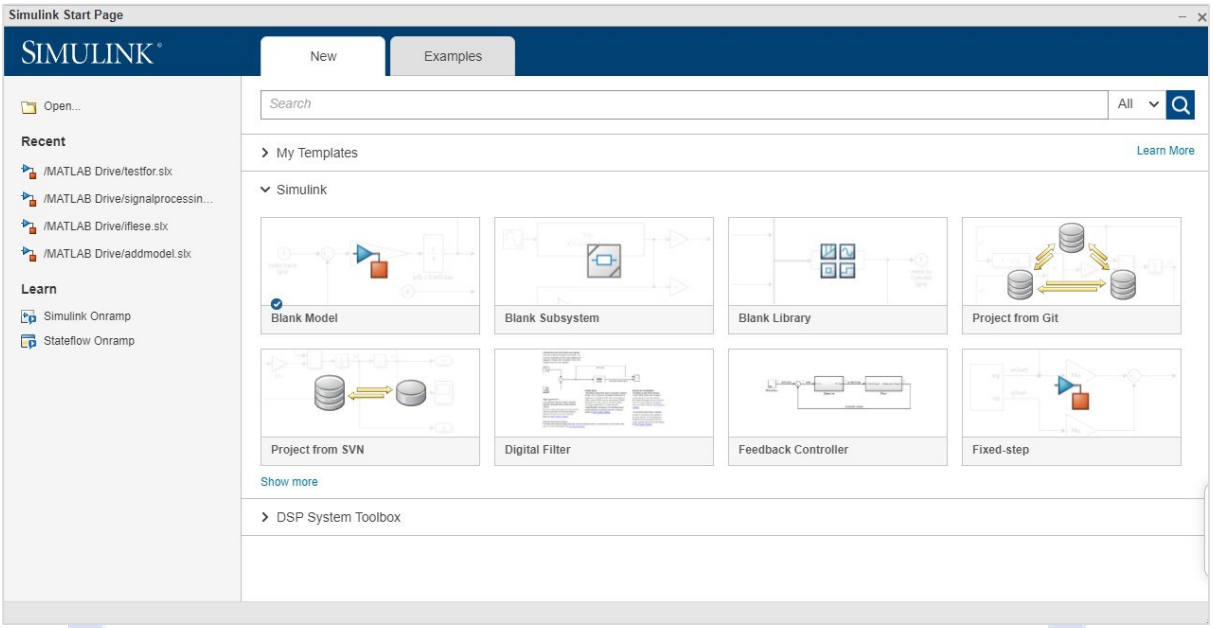
Here is a MATLAB display:



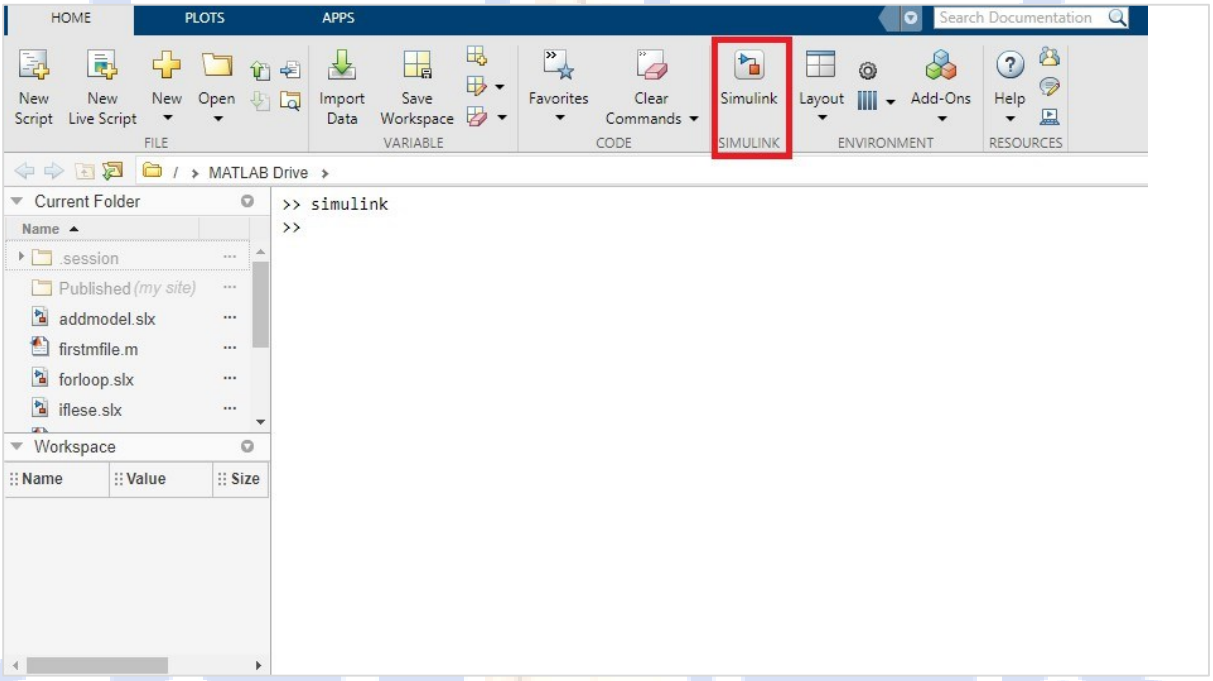
You can start Simulink by using simulink command in the MATLAB command window as shown below:

```
>> simulink
```

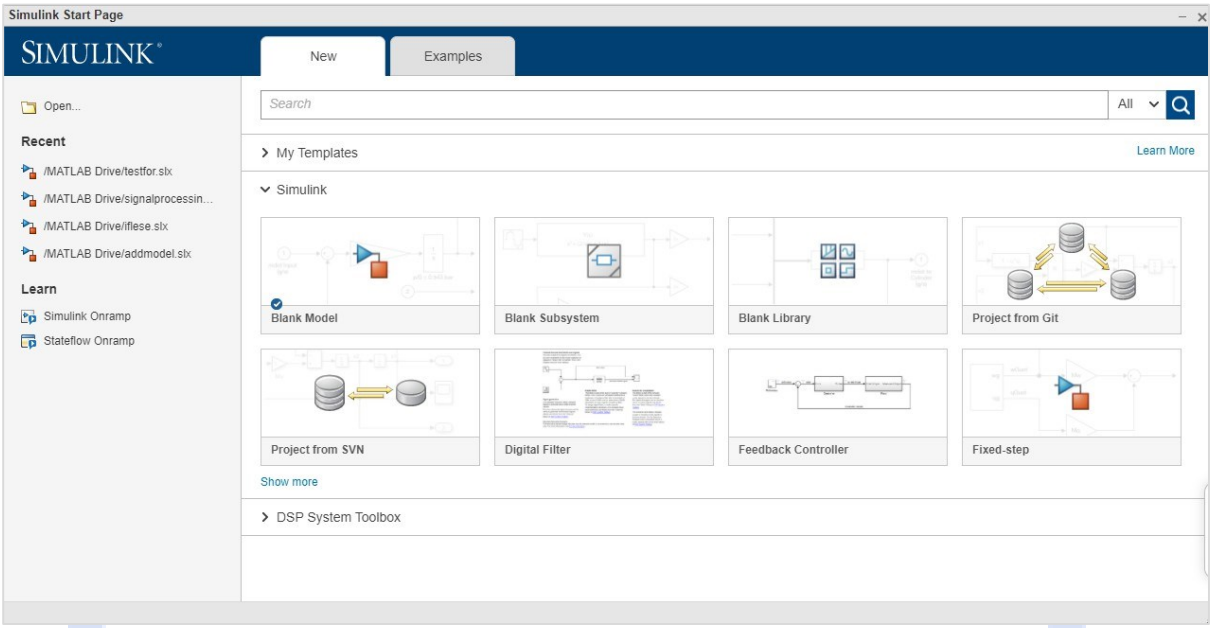
Click on enter to open the Simulink startup page as shown below:



You can also open Simulink from MATLAB interface directly by clicking on Simulink icon as shown below:

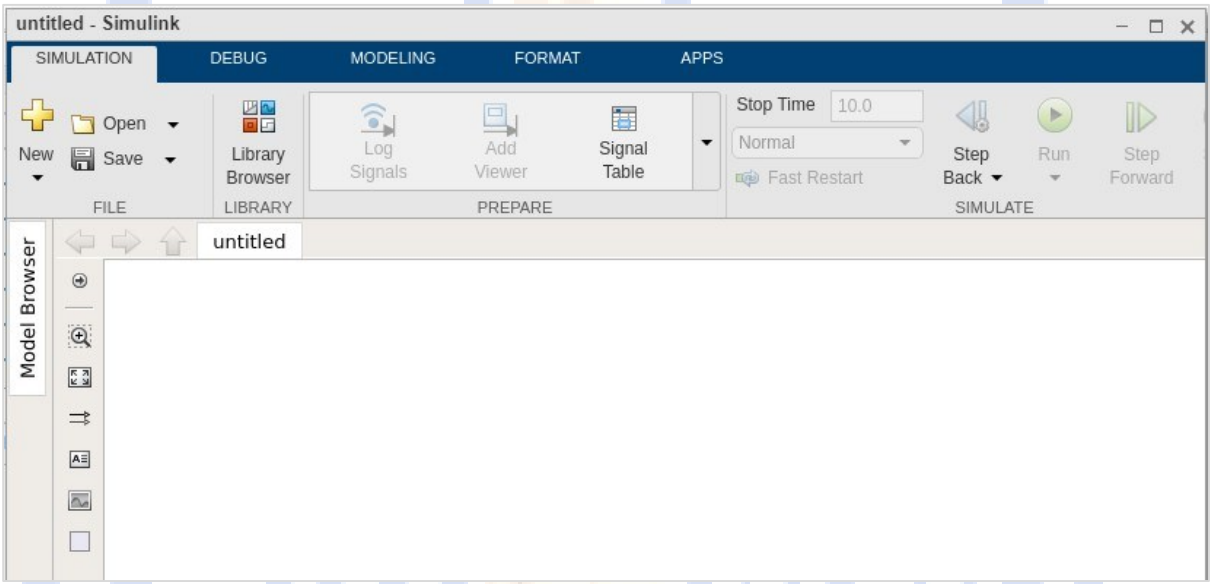


When you click on the Simulink icon, it will take you to a Simulink startup page, as shown below:



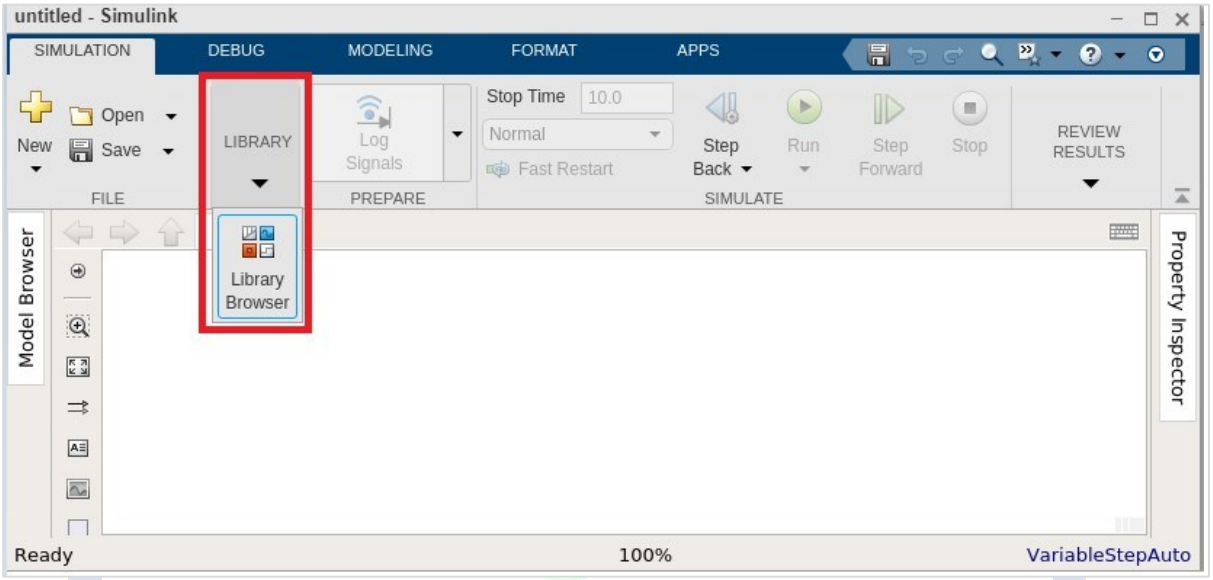
The startup page has a blank model, subsystem, library to start the model from scratch. There are also some built-in templates that can help the users to start with.

To create a model, the user can click on blank model and it will display a page as shown below:

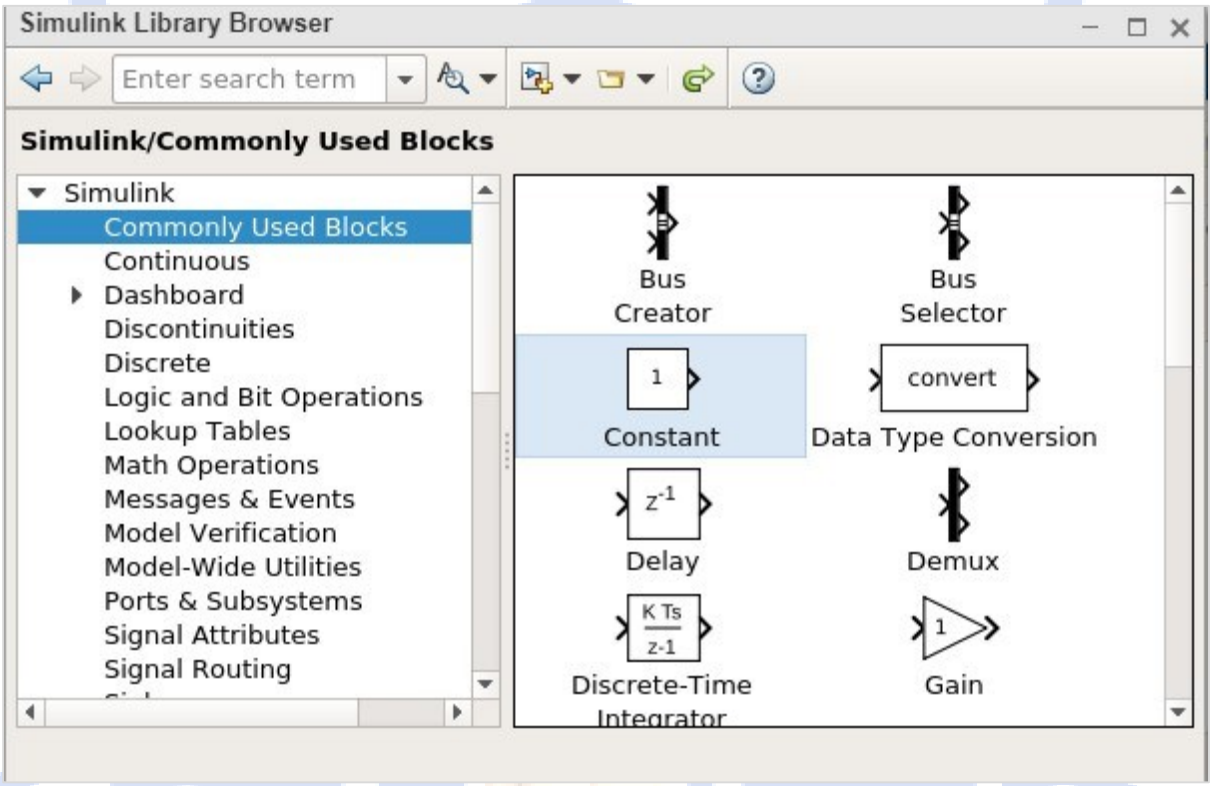


Click on Save to save your model. The blocks to build your model are available inside the Simulink library browser.

Click on library browser as shown below:



The library browser has a list of all types of libraries with different blocks as shown below:

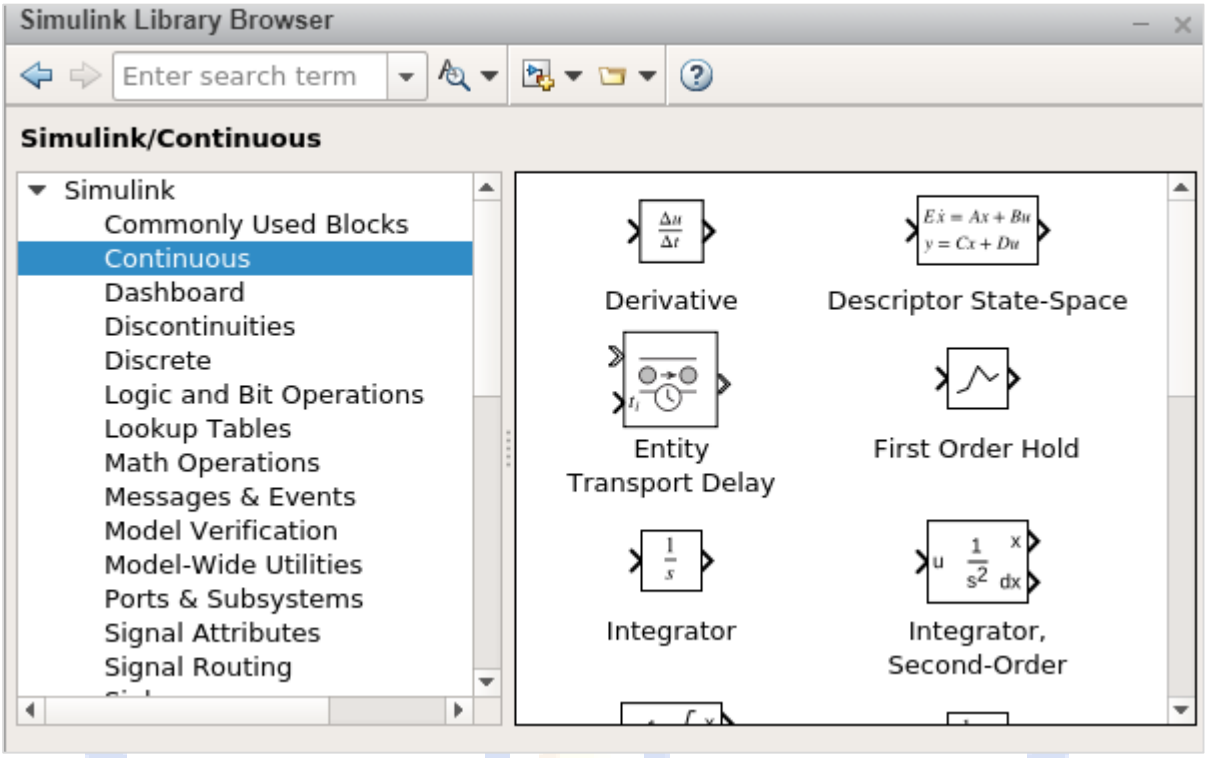


Libraries in Simulink

Let us understand some of the commonly used libraries in Simulink.

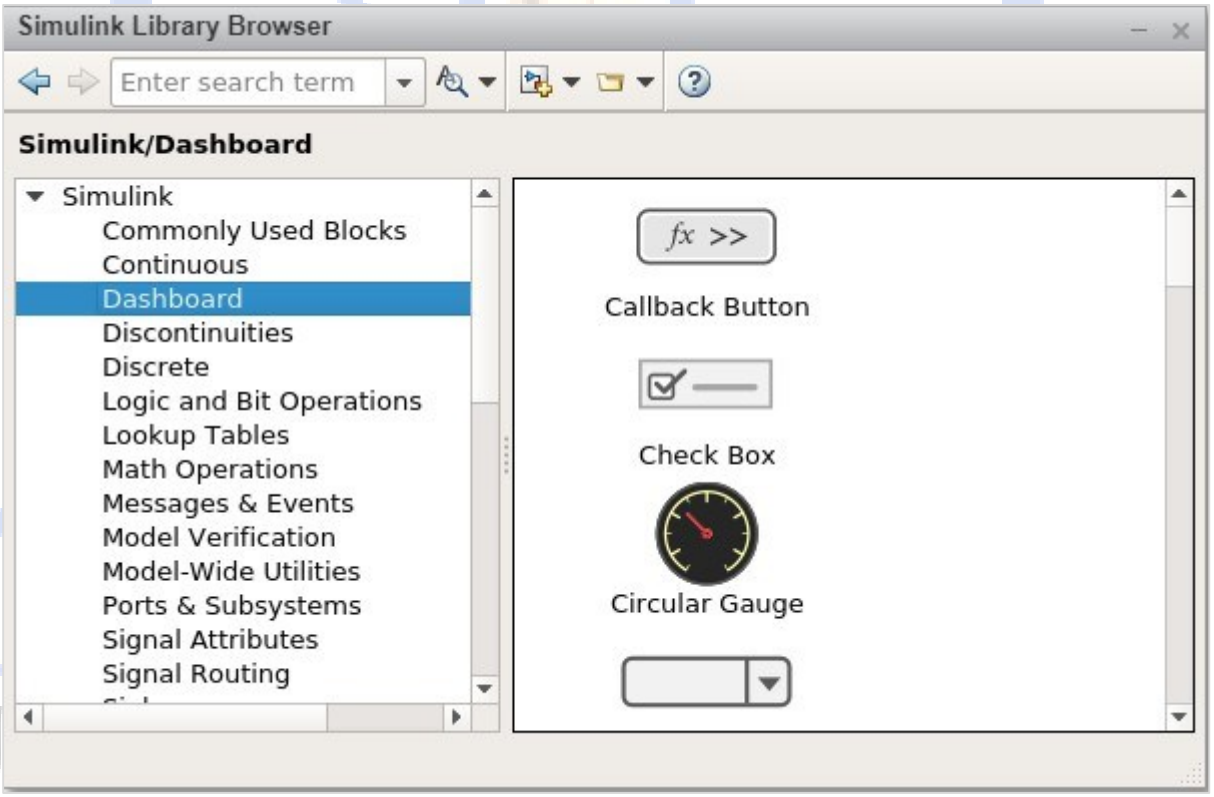
Continuous

A continuous blocks library gives you blocks related to derivatives and integrations. The list of blocks are as follows:



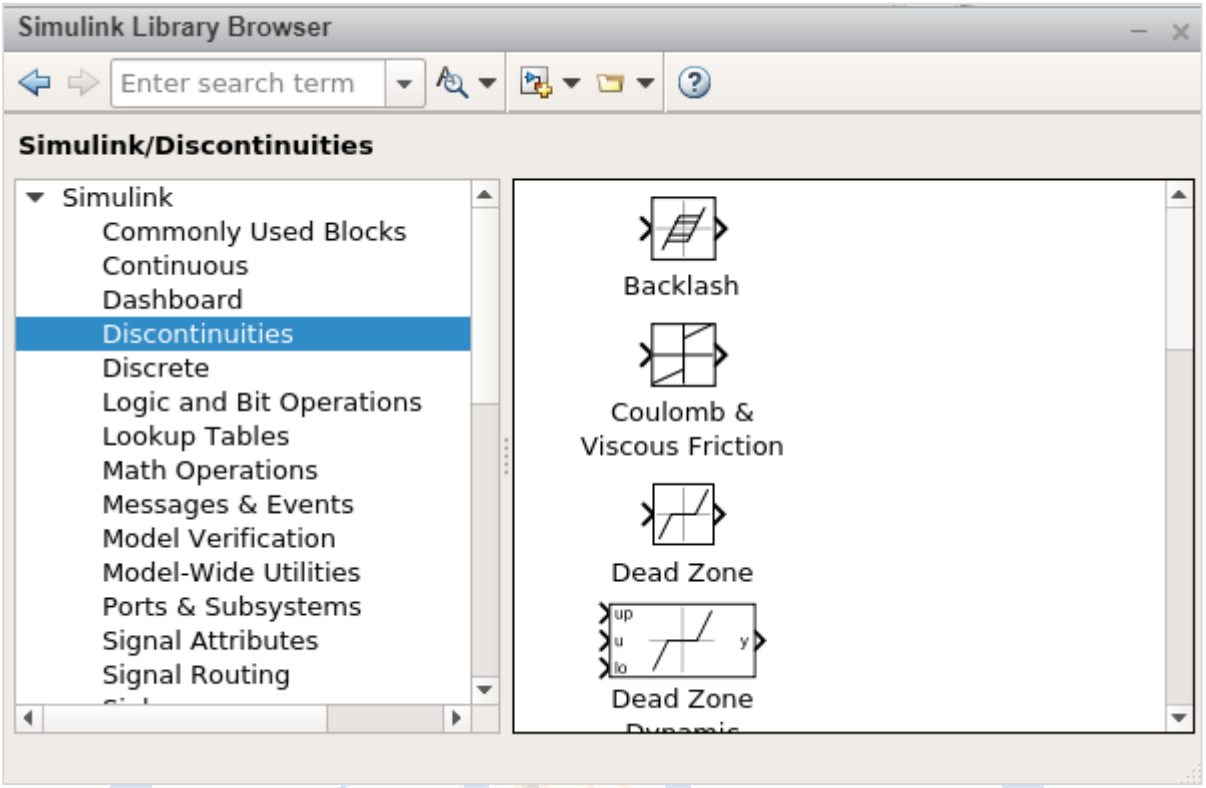
Dashboard

With Dashboard, you will get controls and indicator blocks that help to interact with simulations. The following screen will appear on your computer:



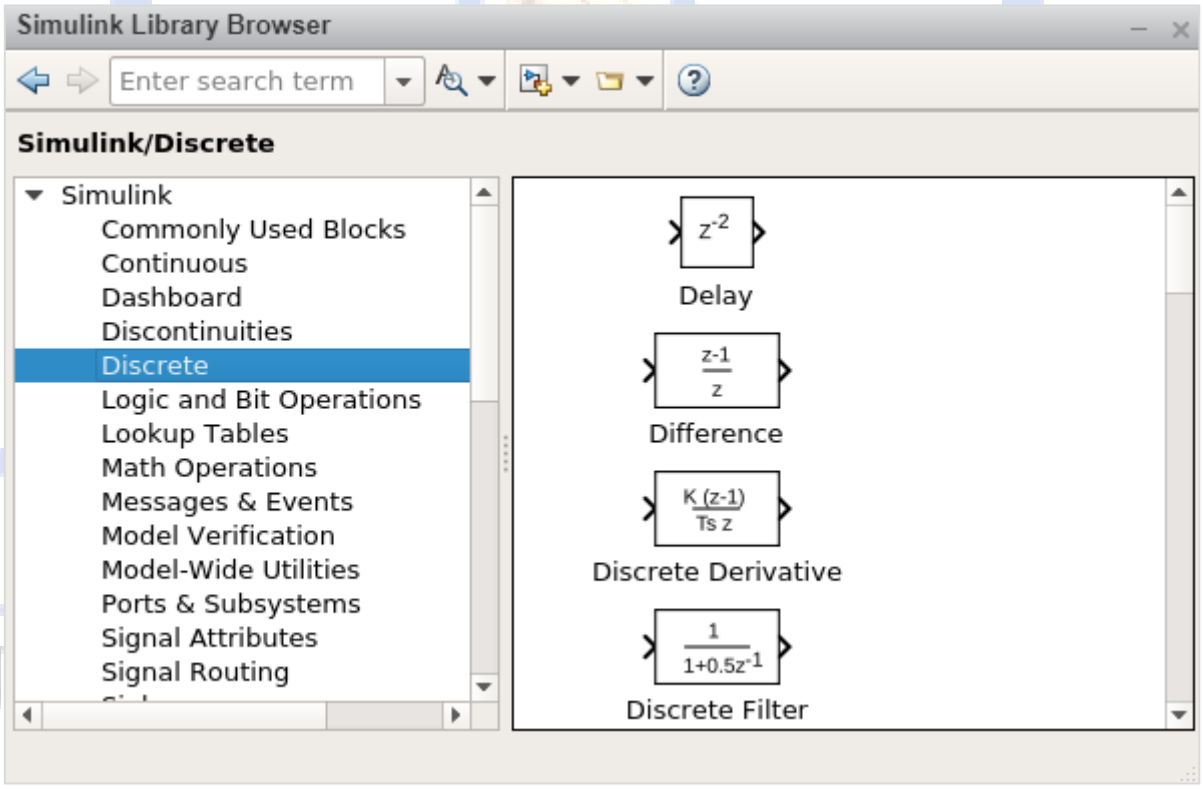
Discontinuities

Here, you will get a list of discontinuous functions blocks as displayed below:



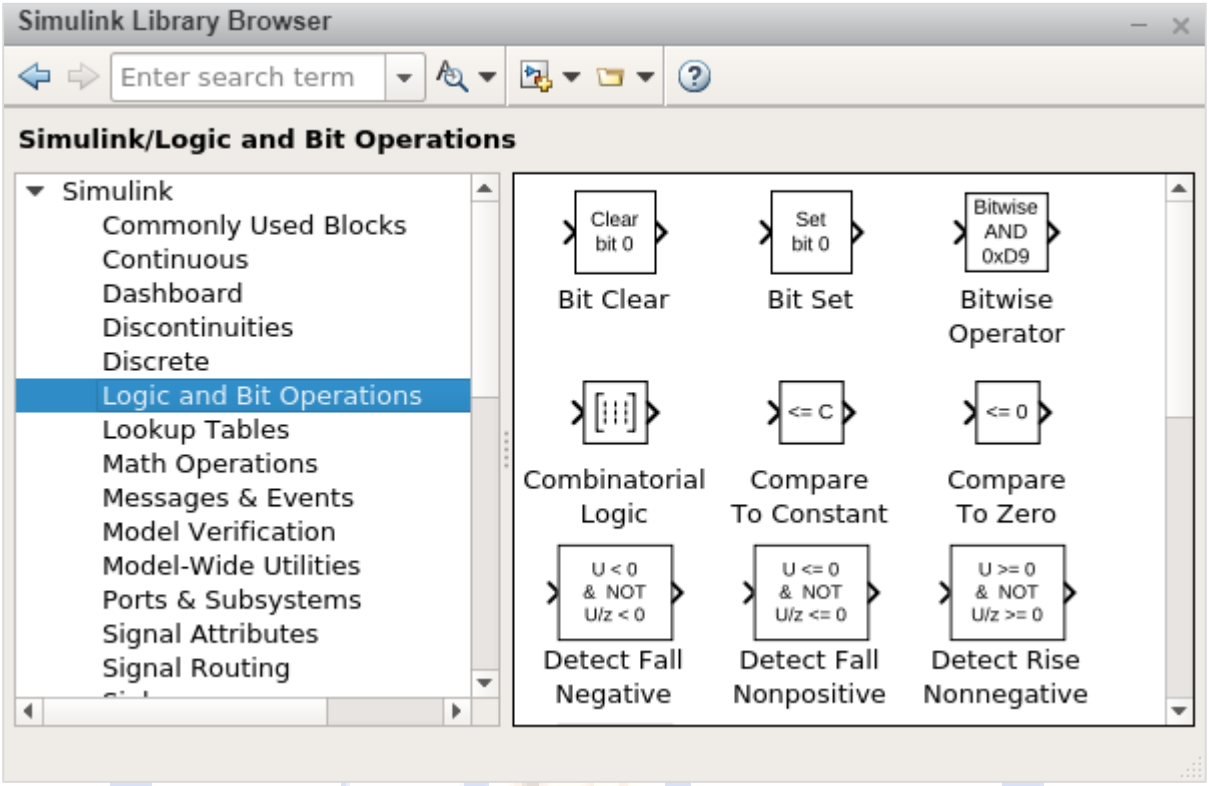
Discrete

Here, you will get time relation function blocks as shown below:



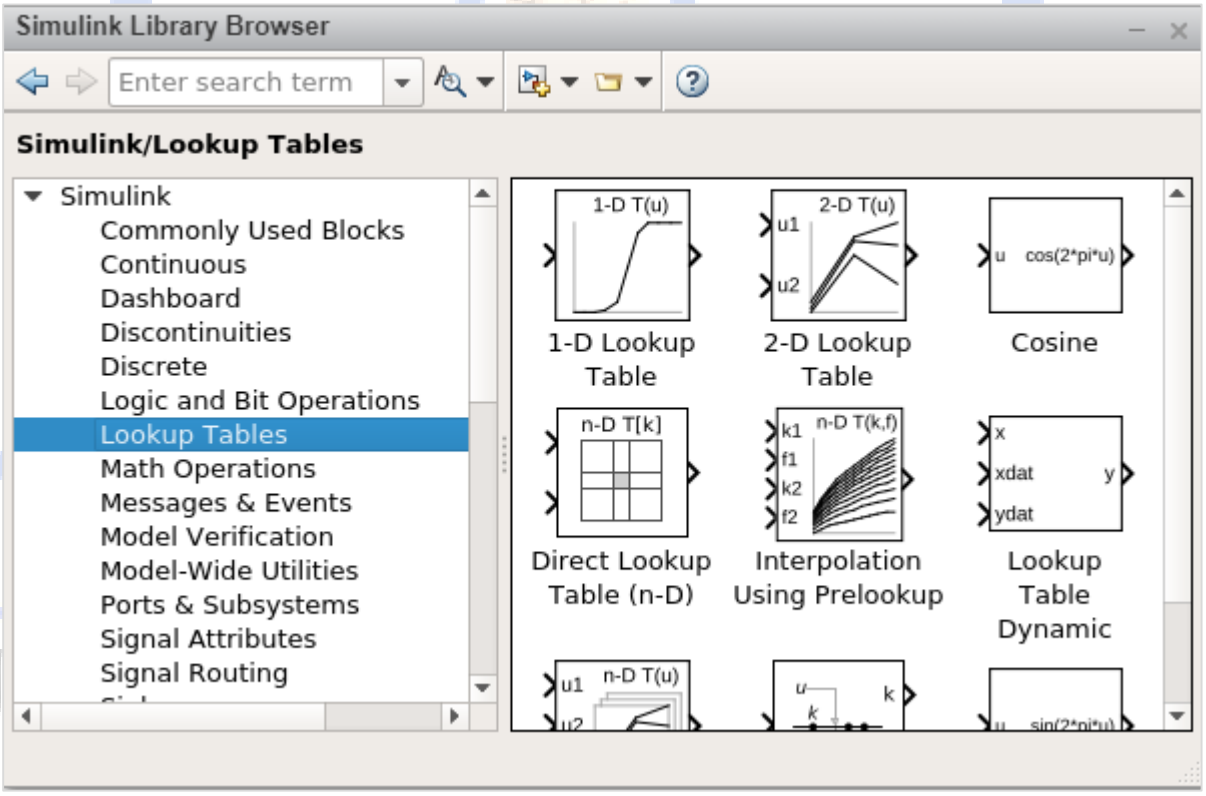
Logic and Bit Operations

In this category, you will get all logical and relational type blocks as displayed below:



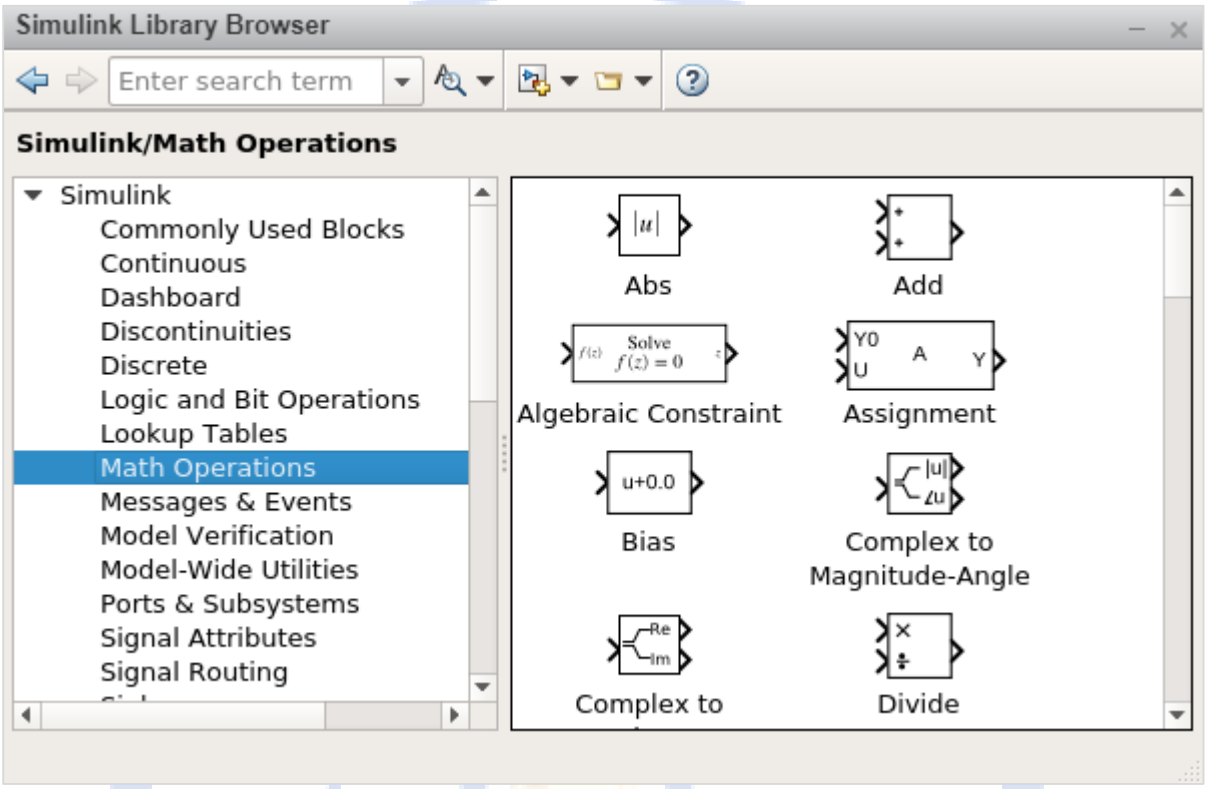
Lookup Tables

You will all the sine, cosine function blocks as shown below:



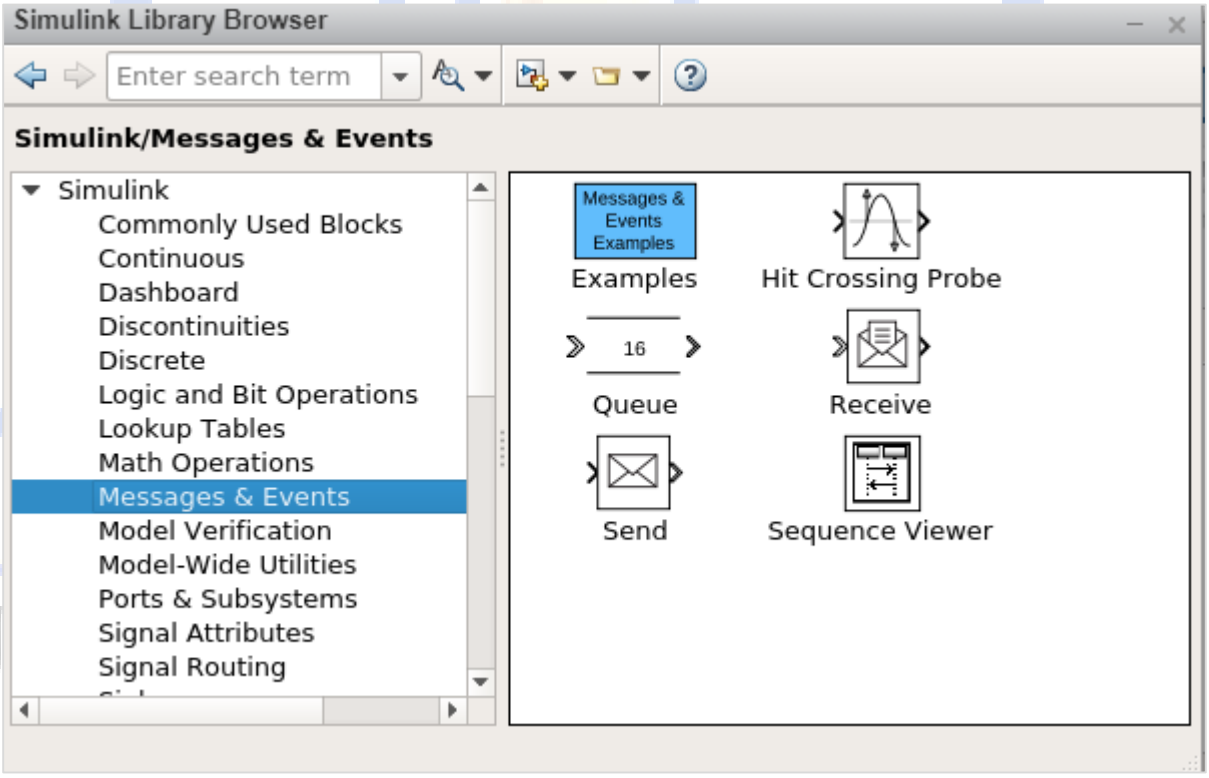
Math Operations

All mathematical operations like Add, Absolute, divide, subtract are available. The list is as follows:



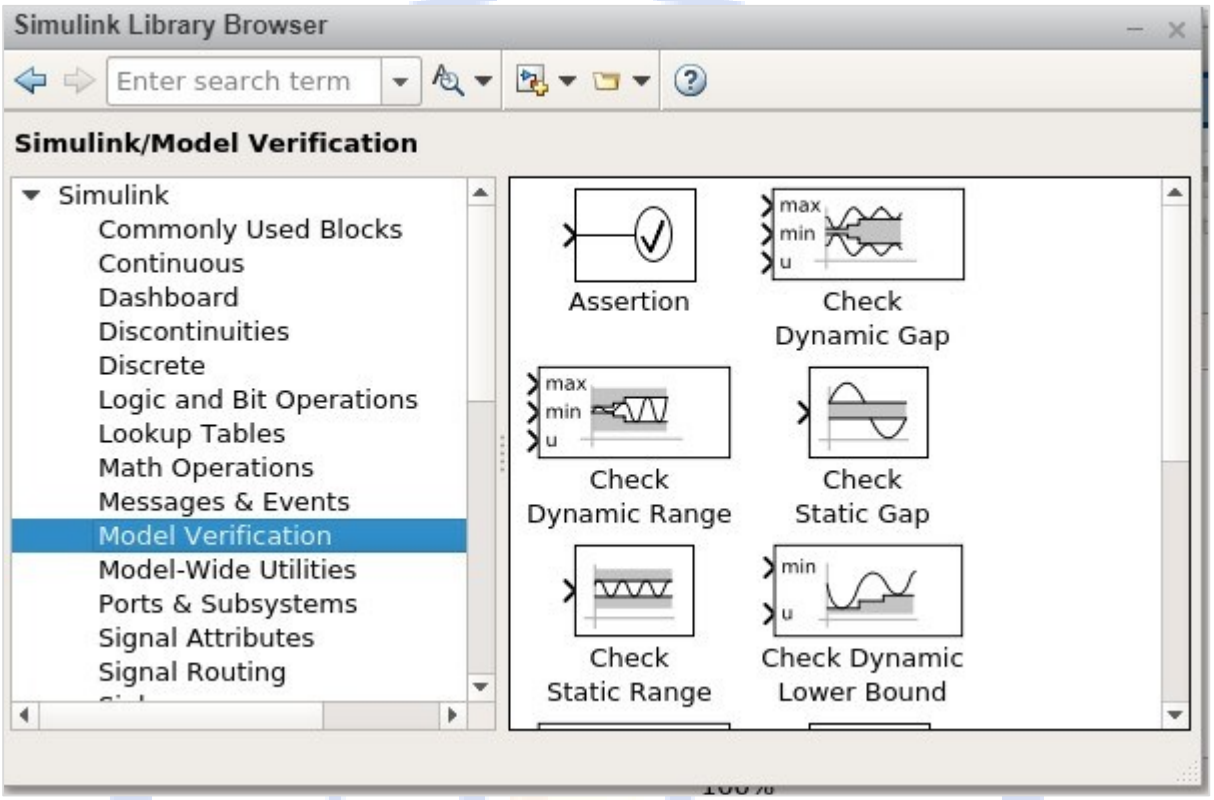
Messages and Events

This block has all the message/communication related functions as shown below:



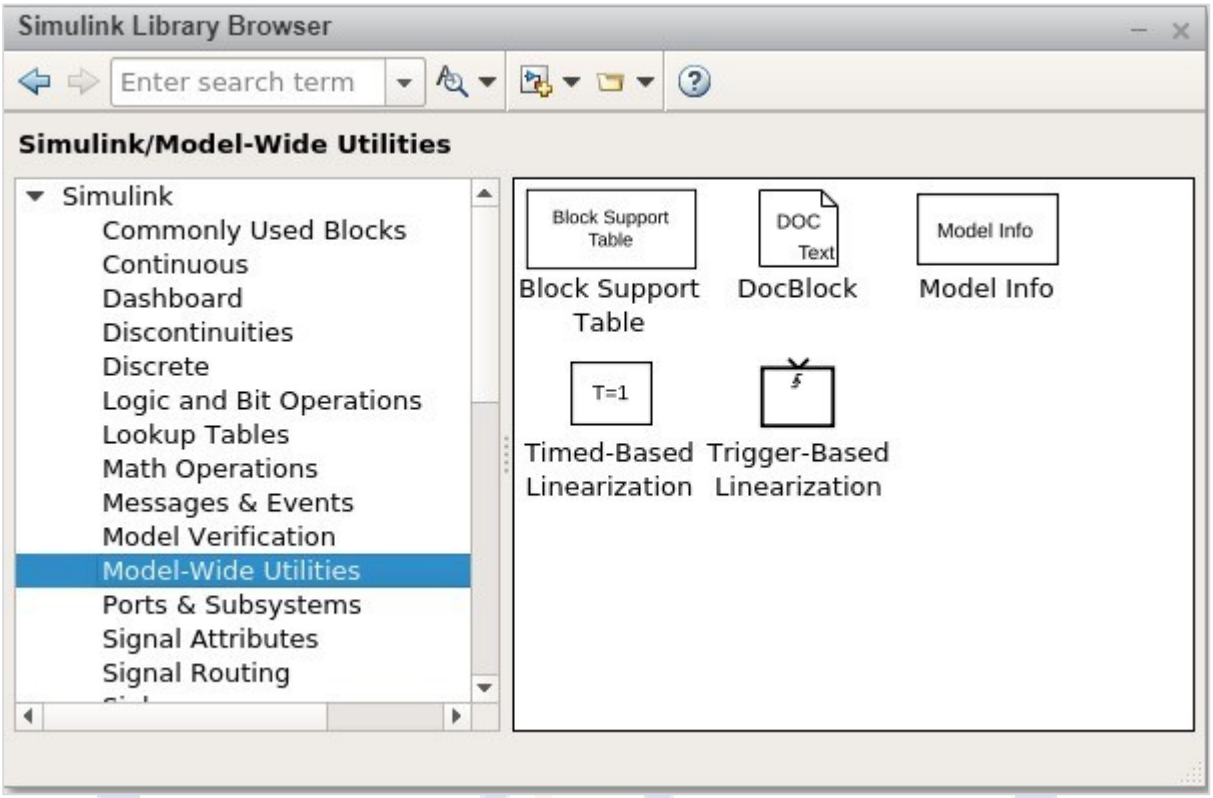
Model Verification

The blocks present here helps to self-verify models, such as Check Input Resolution. The following screen will appear on your computer:



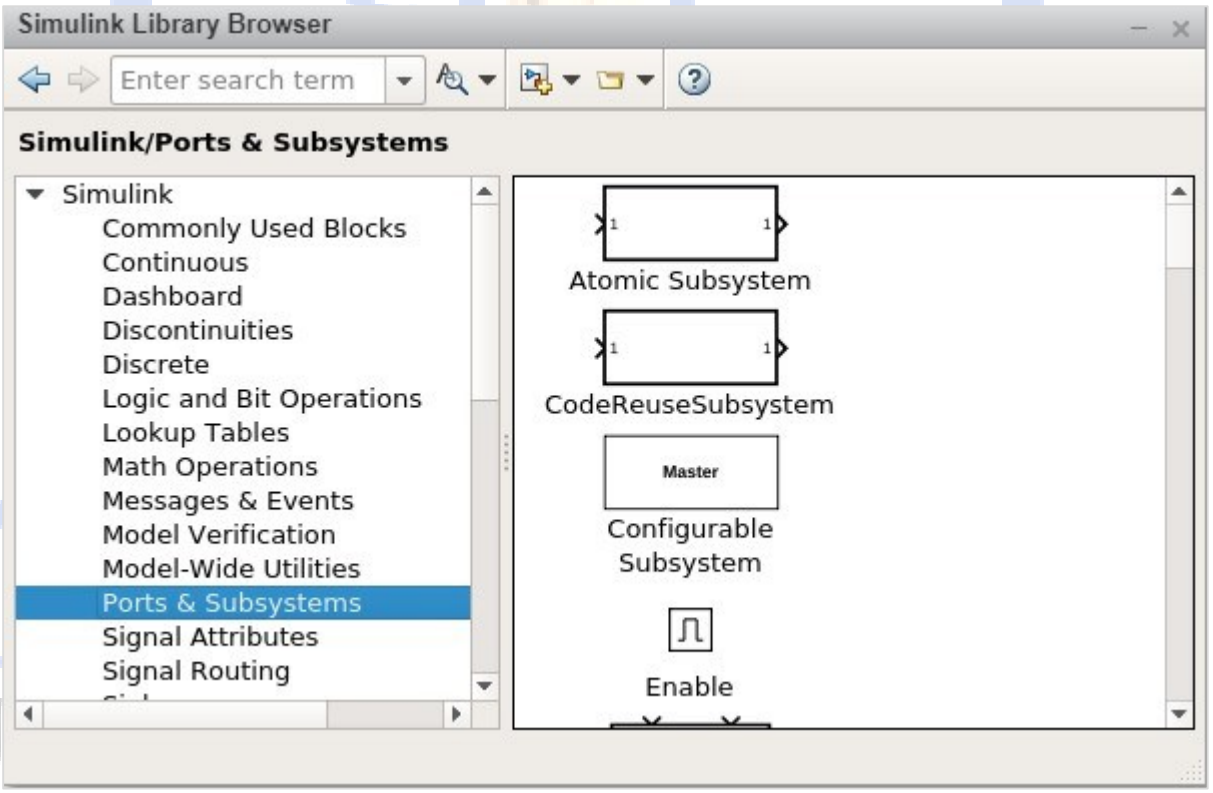
Model-Wide Utilities

This gives you blocks like Model info, Block Support Table etc. The following screen will appear on your computer:



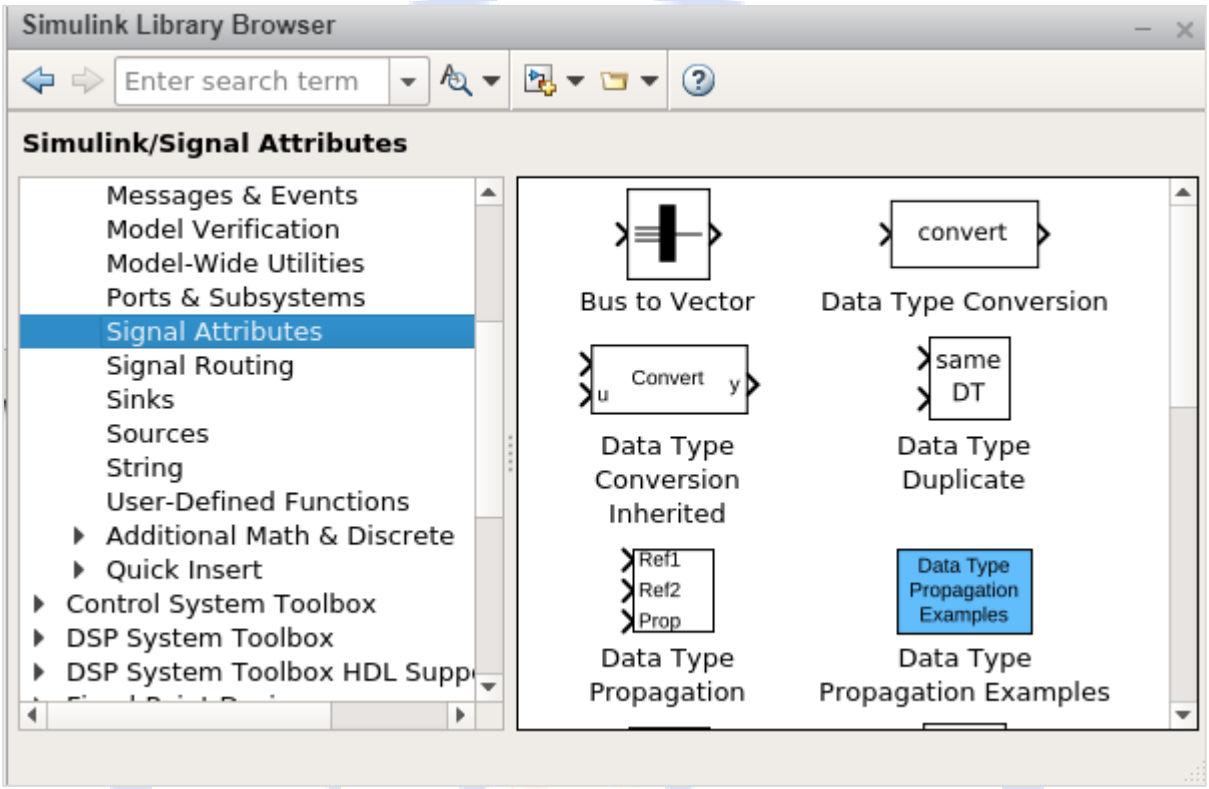
Ports and Subsystems

You will get blocks like a subsystem, switch case, enable etc. The list is displayed below:



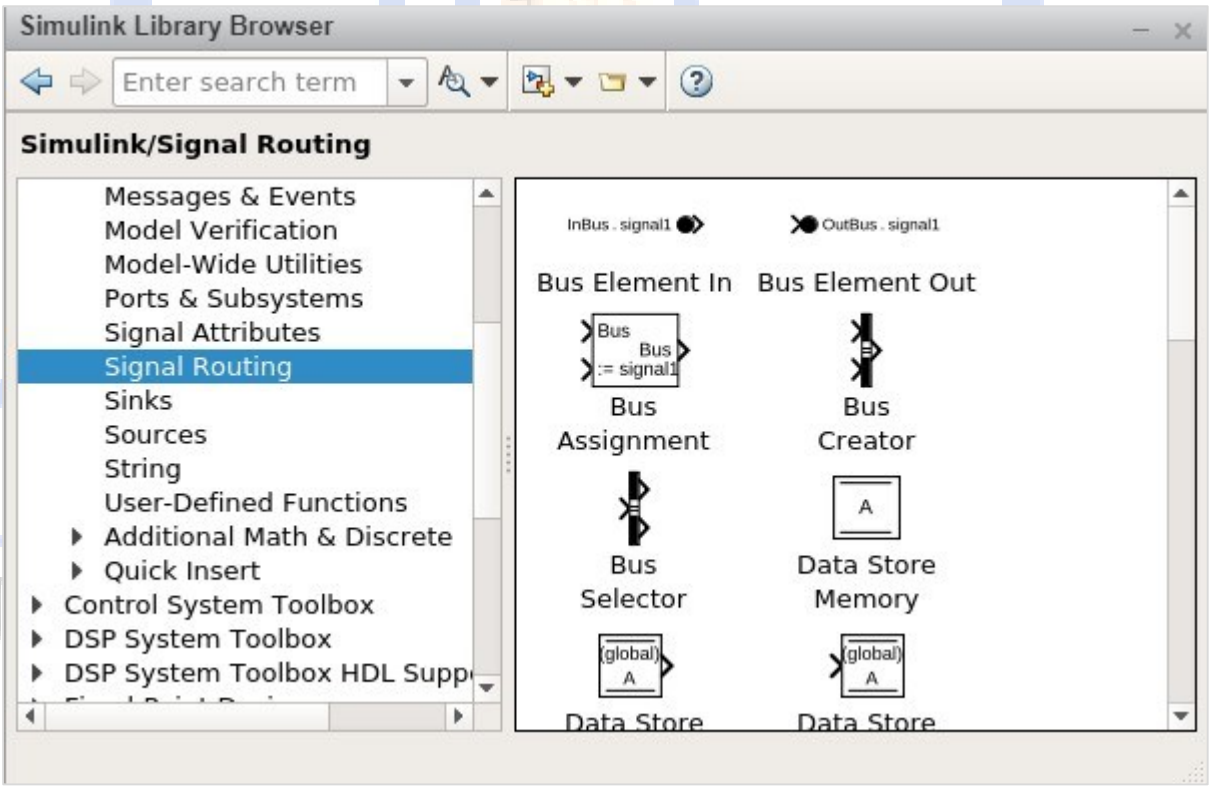
Signal Attributes

Modify the signal attribute blocks such as Data Type Conversion. The following screen will appear on your computer:



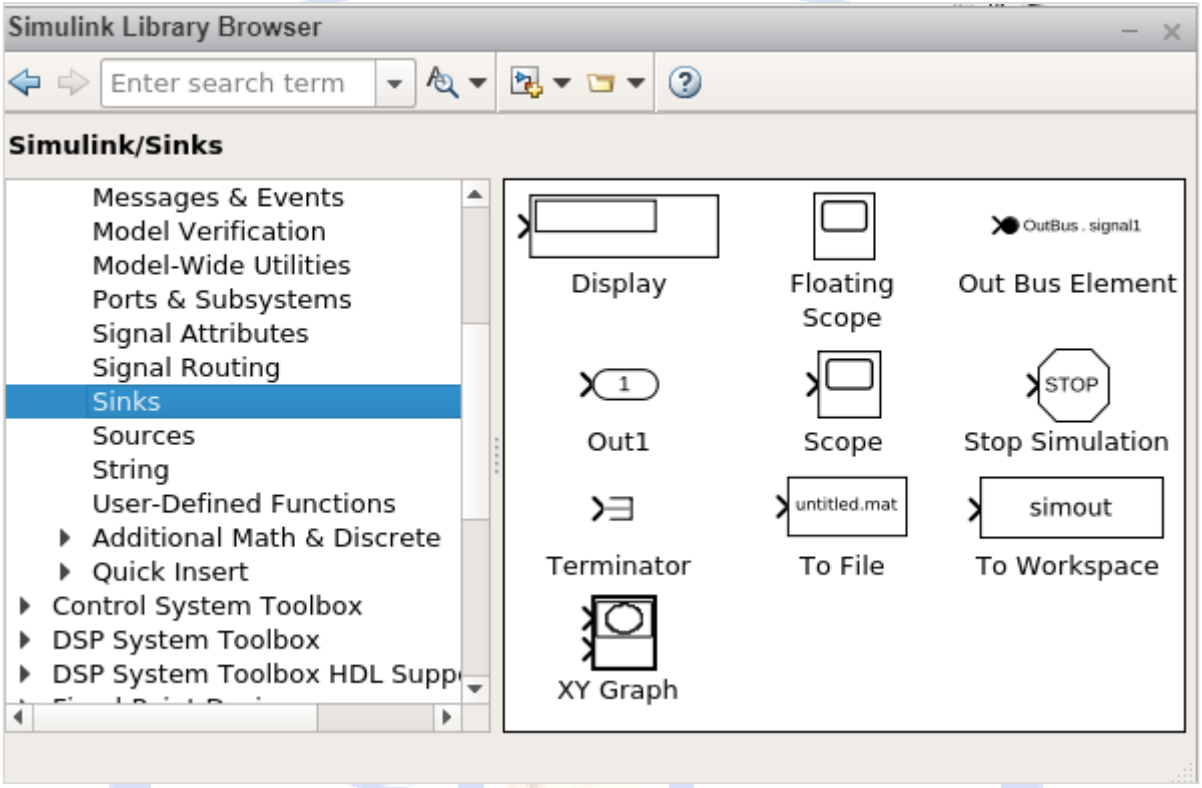
Signal Routing

The blocks in this category is used to route signal blocks such as bus creator, switch etc. The following screen will appear on your computer:



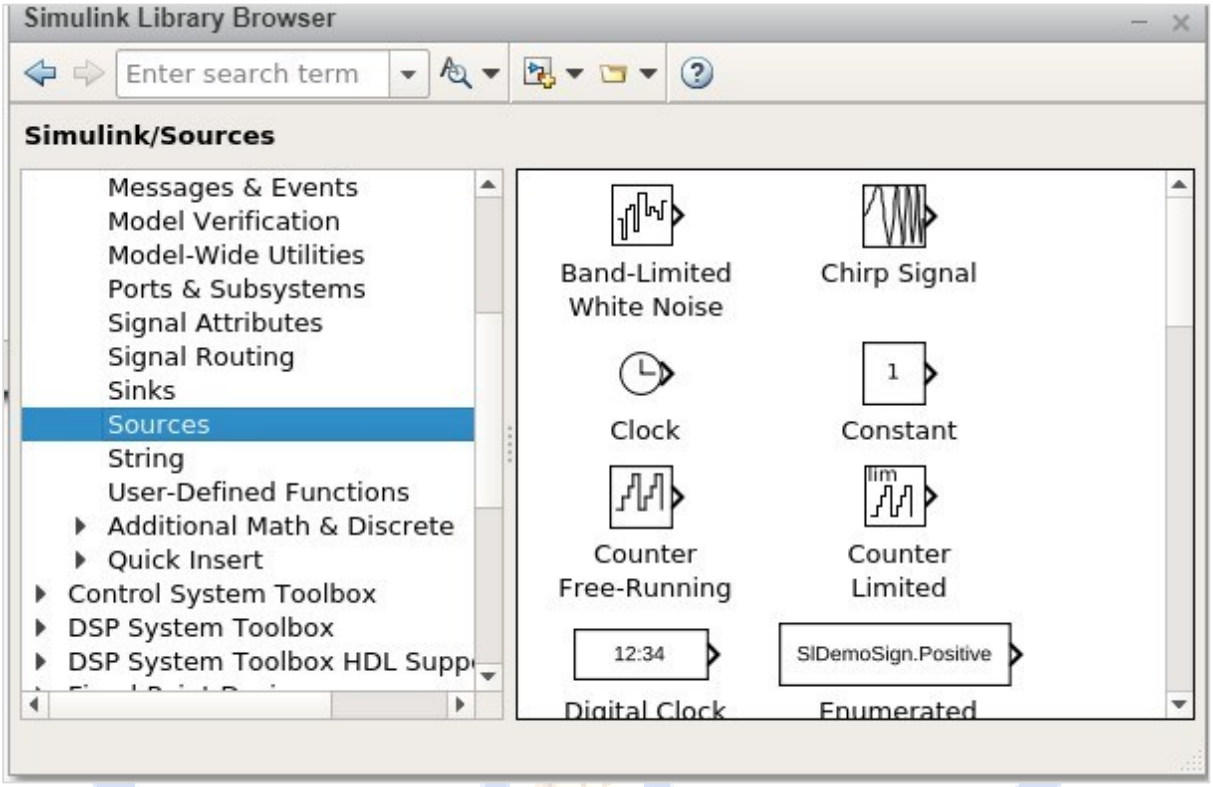
Sinks

The blocks in this category help to display or export signal data blocks such as Scope and To Workspace. The following screen will appear on your computer:



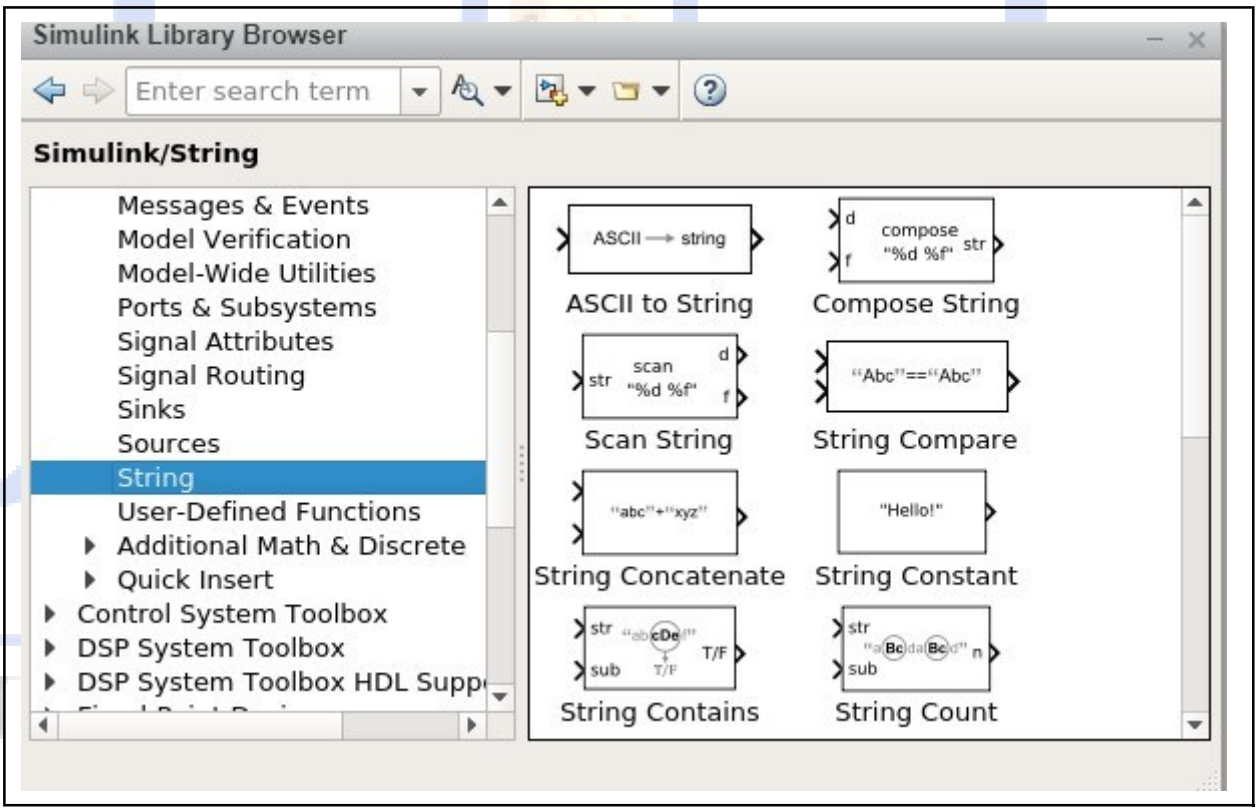
Sources

It helps to generate or import data blocks. For example, sine wave. The following screen will appear on your computer:



String

This category has string related blocks as shown below:



User Defined functions

Custom function blocks such as MATLAB Function, MATLAB System, Simulink Function, and Initialize Function. The following screen will appear on your computer: