

Inference Studio QuickStart 4

Embed and Use an R Function in Inference Studio

Inference Studio QuickStart 4 shows you how to:

- Embed code elements in an Inference Parts Container.
- Use those code elements within the Inference document.

1. Declare a New Function

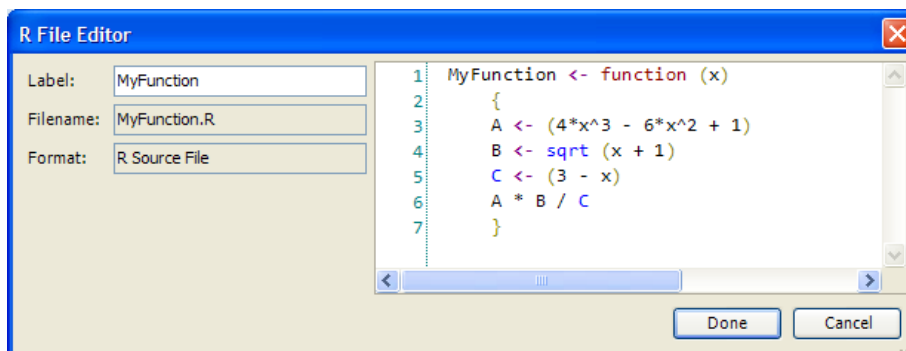
For the purpose of this illustration we will declare a new function, `MyFunction(x)`, described by the following equation:

$$\text{MyFunction}(x) = \frac{(4x^3 - 6x^2 + 1)\sqrt{x + 1}}{3 - x}$$

To declare and store this function in an Inference Studio Parts Container:

1. Open or create an Inference Studio document.
2. Click the **Object** tab.
3. Select **New > R Source File**.
4. The **Create New Object** dialog box will appear. Enter **MyFunction** as the object name.
5. In the R File editor, declare the function by inserting the following R code:

```
MyFunction <- function (x)
{
  A <- (4*x^3 - 6*x^2 + 1)
  B <- sqrt (x + 1)
  C <- (3 - x)
  A * B / C
}
```



6. Click **Done**. The source code file will be embedded within the Inference Studio document.

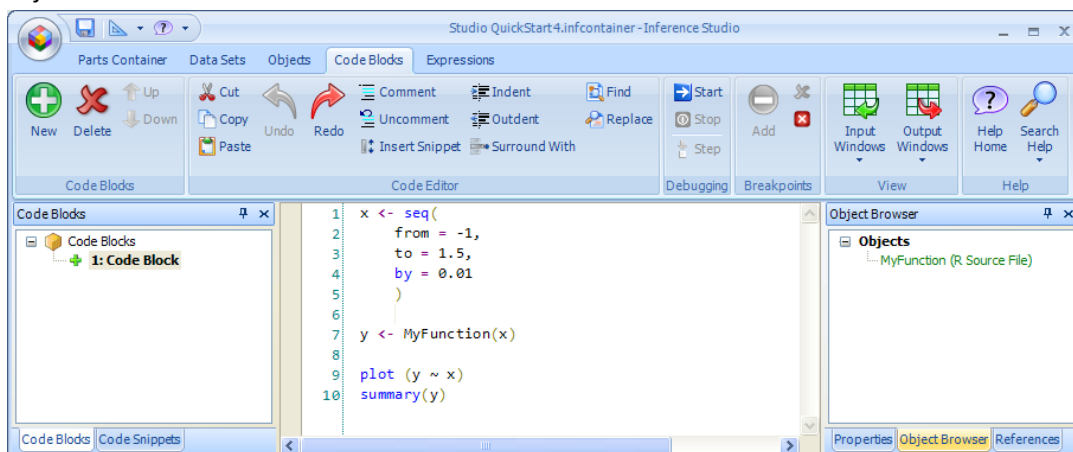
2. Call the Function in a Code Block

Next, we will add R code that creates a vector of x values, evaluates $\text{MyFunction}(x)$ at the x values, and plots the results.

1. Click the **Code Blocks** tab.
2. In the **Code Blocks** section of the ribbon, click **New**.
3. In the Code Editor window, insert the following R code:

```
x <- seq(  
  from = -1,  
  to = 1.5,  
  by = 0.01  
)  
  
y <- MyFunction(x)  
  
plot (y ~ x)  
summary(y)
```

Note: while adding code to your code block, the Object Browser (by default next to the Properties tab) lists in green the objects available in your current Inference Studio document. By double-clicking an object name (in this example, MyFunction), you can automatically add the object's name to the code block.



3. View the Results

1. In the Debugging section of the Code Blocks ribbon, click **Start**.
2. Compare your results to the following:

