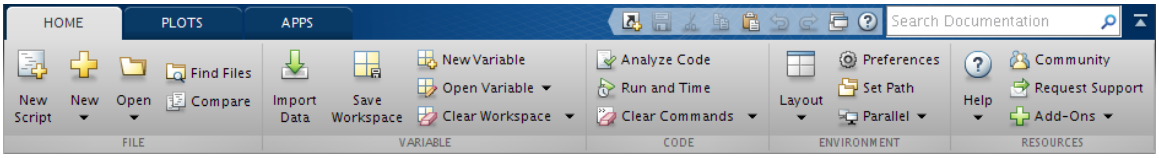
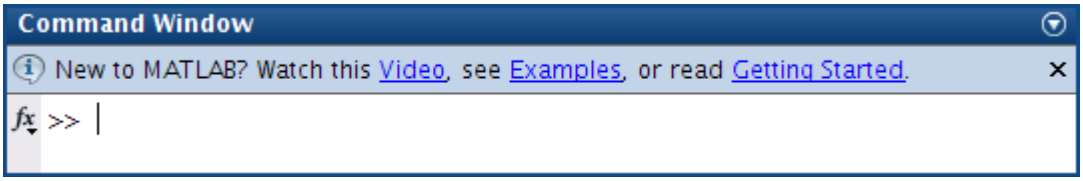
Lab 01

Getting Started

1. Start MATLAB
2. On the HOME tab, in the ENVIRONMENT section, click Layout, then Default.[1]



3. Consider the Command Window.



Arithmetic

4. In the Command Window, type the following commands and write down the output:

```
>> 2+3 ↵
   ans =

        5
>> 2*3 ↵

>> 2/3 ↵

>> 2^3 ↵
```

5. Write the intended operation of the following operators:

+	Addition
-	
*	
/	
\	
^	

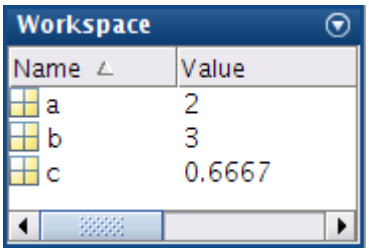
1 You may like to try other Layout options.

Variables

6. In the Command Window, type the following commands and write down the output:

```
>> a=2 ↵
   a =

        2

>> b=3 ↵

>> c=a/b ↵
```

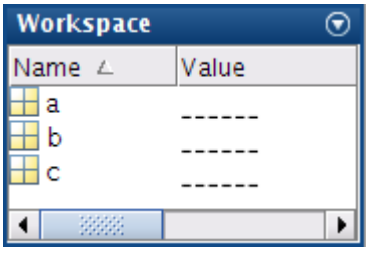
7. Consider the Workspace.



8. In the Command Window, type the following commands:

```
>> a=4; ↵
>> b=5; ↵
```

9. From the Workspace, write the values of the variables a, b, and c.



10. In the Command Window, type the following commands and write down the output:

```
>> a=4;b=5; ↵
>> a=4,b=5, ↵
```

11. Notice that both (,) and (;) can be used to separate commands, but (;) suppresses the output.

12. In the Command Window, type the following commands, write down the output, and monitor the Workspace:

```
≫ clc ↵
≫ clear ↵
≫ a=4; ↵
≫ whos ↵

  ---------------------------------------------------------------------------

≫ b=5; ↵
≫ whos ↵

  ---------------------------------------------------------------------------

≫ clear a ↵
≫ whos ↵

  ---------------------------------------------------------------------------

≫ help clc ↵

  ---------------------------------------------------------------------------

  ---------------------------------------------------------------------------
```

13. Write the purpose of using the following functions:

```
clc     to clear command window ----------------------------------------------
clear   ---------------------------------------------------------------------
whos    ---------------------------------------------------------------------
help    ---------------------------------------------------------------------
```

Mathematical Functions

14. In the Command Window, type the following commands and write down the output:

```
≫ sin(pi/2); ↵

  ---------------------------------------------------------------------------

≫ tan(0); ↵

  ---------------------------------------------------------------------------
```

15. Write the purpose of the following functions:

```
sin     to calculate sine of argument in radians ------------------------------
cos     ---------------------------------------------------------------------
tan     ---------------------------------------------------------------------
sqrt    ---------------------------------------------------------------------
```

Vectors

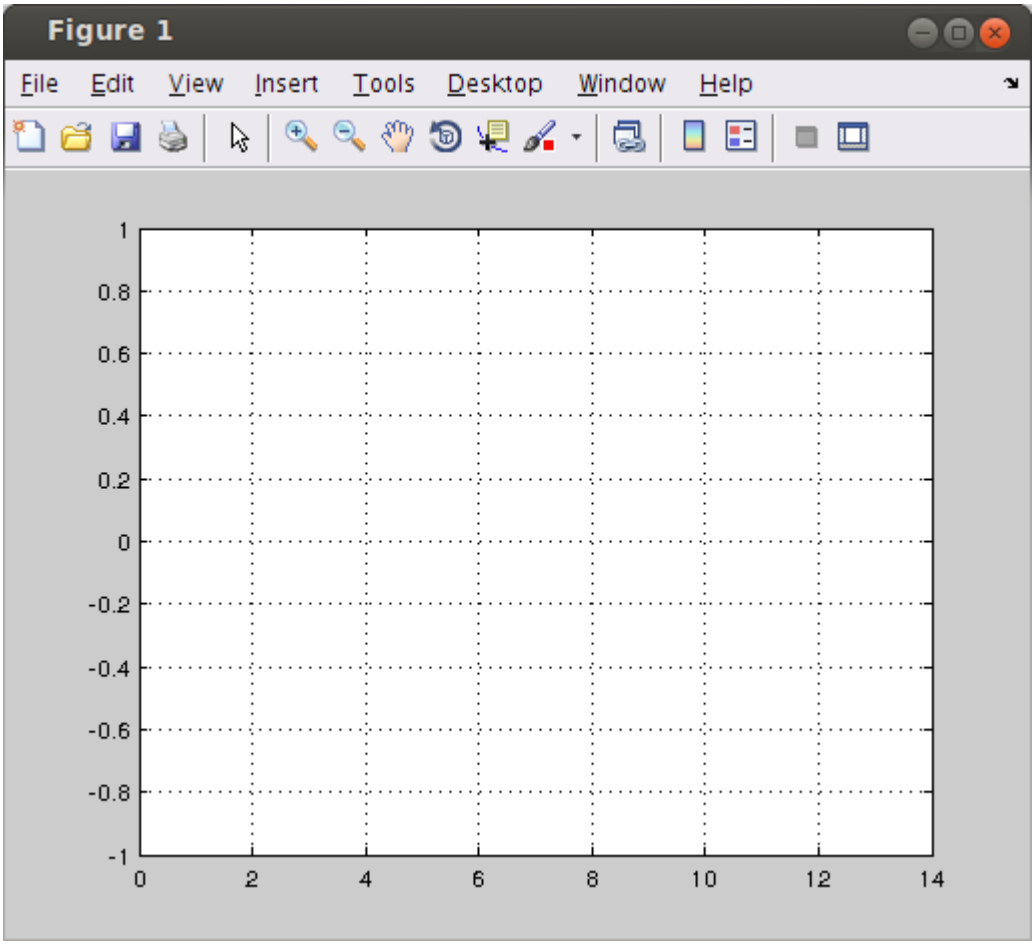
16. In the Command Window, type the following commands and write down the output:

```
≫ a=0:10 ↵

-------------------------------------------------------------------------------

≫ b=0:2:20 ↵

-------------------------------------------------------------------------------

≫ c=a+b ↵

-------------------------------------------------------------------------------
```

Plot

17. In the Command Window, type the following commands and write draw the output:

```
≫ x=0:0.1:4*pi; ↵
≫ y=sin(x); ↵
≫ plot(x,y,'-+r'),grid ↵
```



18. Try different plot styles.