

In[1]:= **2 + 2**

Out[1]= 4

In[2]:= **2 - 5**

Out[2]= - 3

In[3]:= **2 * 5**

Out[3]= 10

In[4]:= **6 + 9**

Out[4]= 15

In[5]:= **2 / 5**

Out[5]= $\frac{2}{5}$

In[6]:= **N [2 / 5]**

Out[6]= 0 . 4

In[7]:= **2 !**

Out[7]= 2

In[8]:= **7 !**

Out[8]= 5040

In[9]:= **5 !**

Out[9]= 120

In[10]:= **100 !**

Out[10]= 93 326 215 443 944 152 681 699 238 856 266 700 490 715 968 264 381 621 468 592 963 895 217 599 993 229 \n 915 608 941 463 976 156 518 286 253 697 920 827 223 758 251 185 210 916 864 000 000 000 000 000 000 \n 000 000

In[11]:= **2 ** 2**

Out[11]= 2 * * 2

In[12]:= **2 ^ 2**

Out[12]= 4

In[13]:= **2 ^ - 1**

Out[13]= $\frac{1}{2}$

In[14]:= **Exp [x]**

Out[14]= e^x

In[15]:= **Exp [2]**

Out[15]= e^2

In[16]:= **N [Exp [2]]**

Out[16]= 7 . 38906

In[17]:= **N [Exp [5] , 6]**

e^5 value till 6 digits

Out[17]= 148 . 413

In[18]:= **N [Pi]**

Out[18]= 3 . 14159

Output: Shift + Enter

Brackets

1. () : Math Operations

2. [] : Mathematica Functions

3. { } : List

In[19]:= **N[Pi, 5]**

Out[19]= 3.1416

In[20]:= **N[22 / 7, 5]**

Out[20]= 3.1429

In[21]:= **Log[x]**

Functions' first letter always capital

Out[21]= Log[x]

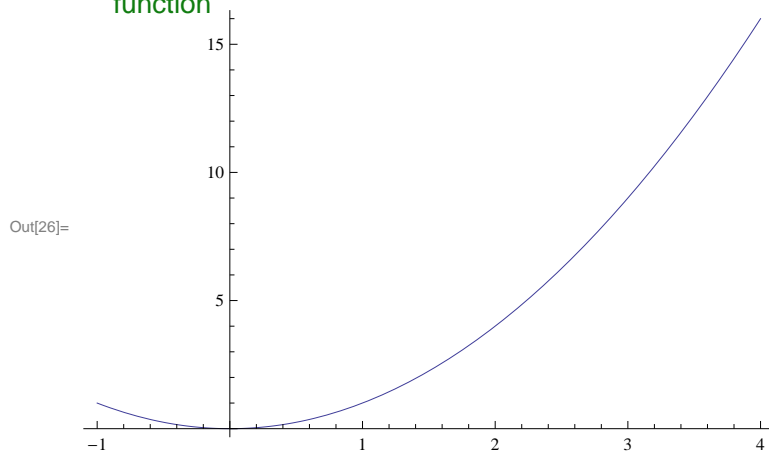
In[22]:= **log[x]**

Out[22]= log[x]

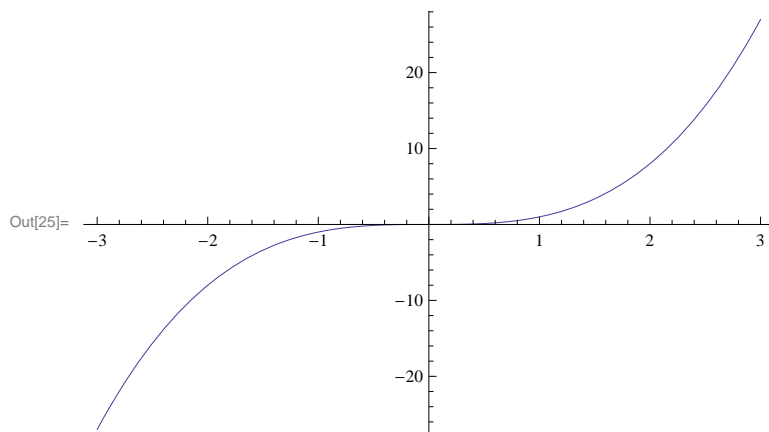
In[23]:= **Log[x]**

Out[23]= Log[x]

In[26]:= **Plot[x^2, {x, -1, 4}]**
function range



In[25]:= **Plot[x^3, {x, -3, 3}]**



In[27]:= **ClearAll**

Out[27]= ClearAll

In[28]:= **Clear[x]**

In[29]:= **x = 5**

Out[29]= 5

In[30]:= **x = 5, y = 3, x + y**



```
In[30]:= x = 5  
         y = 3  
         x = y
```

```
Out[30]= 5
```

```
Out[31]= 3
```

```
Out[32]= y
```

```
In[33]:= x = 5  
         y = 3
```

```
Out[33]= 5
```

```
Out[34]= 3
```

```
In[35]:= x = 5  
         y = 3  
         x + y
```

```
Out[35]= 5
```

```
Out[36]= 3
```

```
Out[37]= 8
```

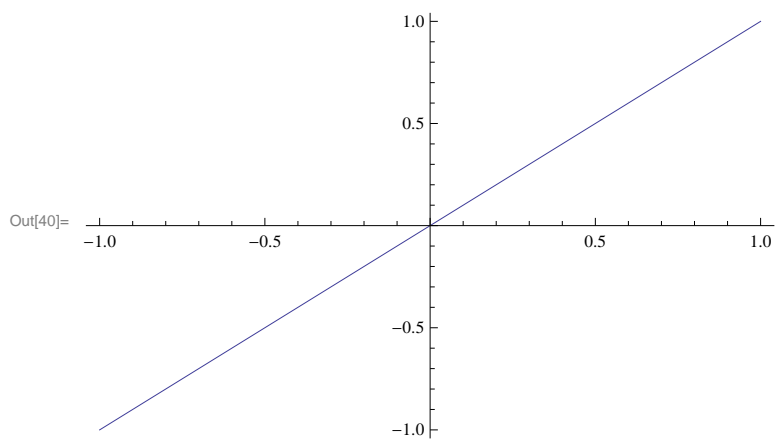
```
In[38]:= x = 5; y = 3; x + y
```

```
Out[38]= 8
```

```
In[39]:= x * y
```

```
Out[39]= 15
```

```
In[40]:= Plot[x, {x, -1, 1}]
```



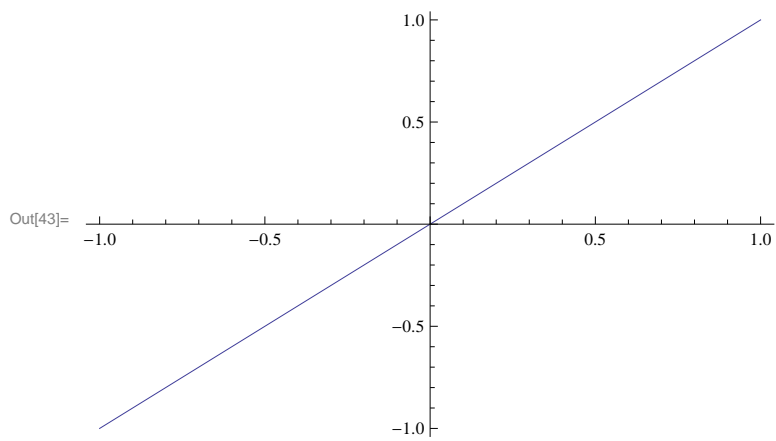
```
In[41]:= x
```

```
Out[41]= 5
```

```
In[42]:= ClearAll
```

```
Out[42]= ClearAll
```

```
In[43]:= Plot[x, {x, -1, 1}]
```

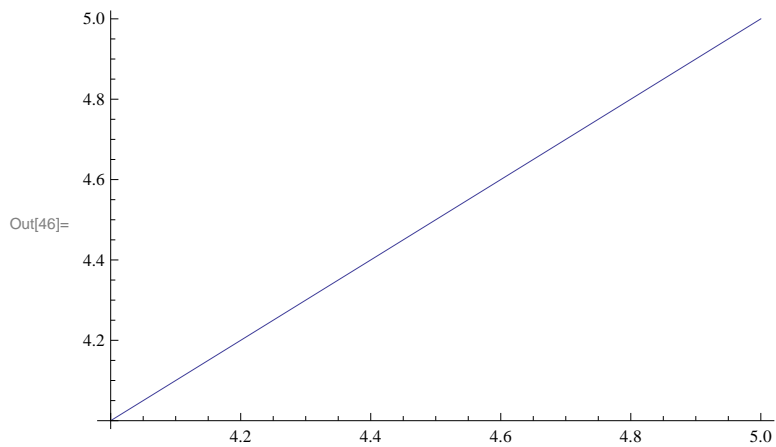


```
In[44]:= x
```

Out[44]= 5

```
In[45]:= Clear[x]
```

```
In[46]:= Plot[x, {x, 4, 5}]
```



```
In[47]:= x
```

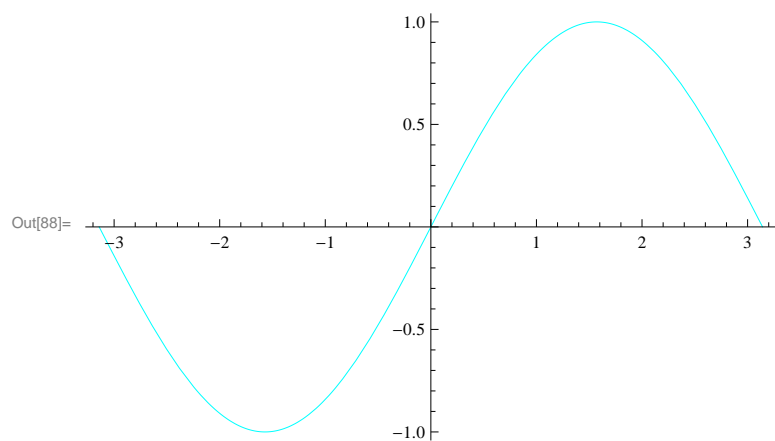
Out[47]= x

```
In[48]:= Pi = 5
```

Set::wrsym : Symbol π is Protected. >>

Out[48]= 5

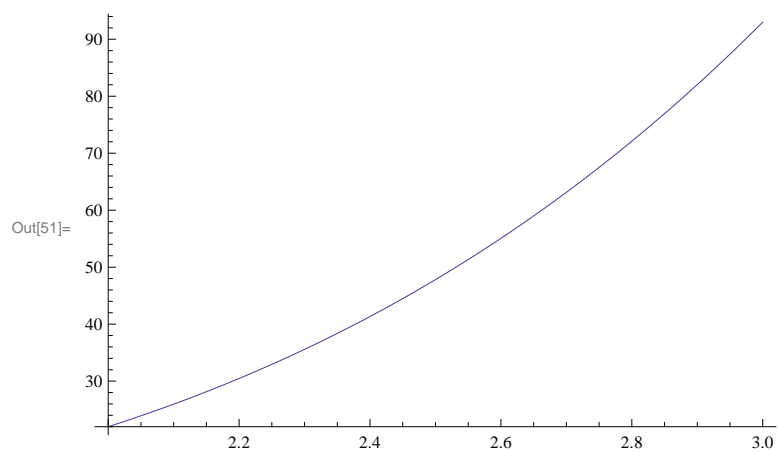
```
In[88]:= Plot[Sin[x], {x, -Pi, Pi}, PlotStyle -> {Cyan}]
```



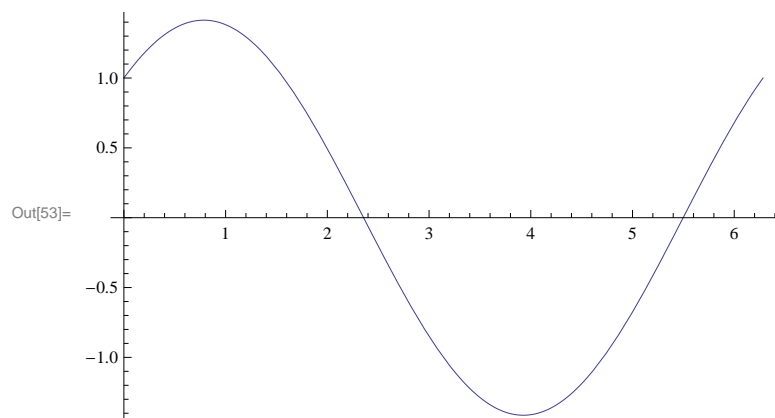
```
In[50]:= Clear[Pi]
```

Clear::wrsym : Symbol π is Protected. >>

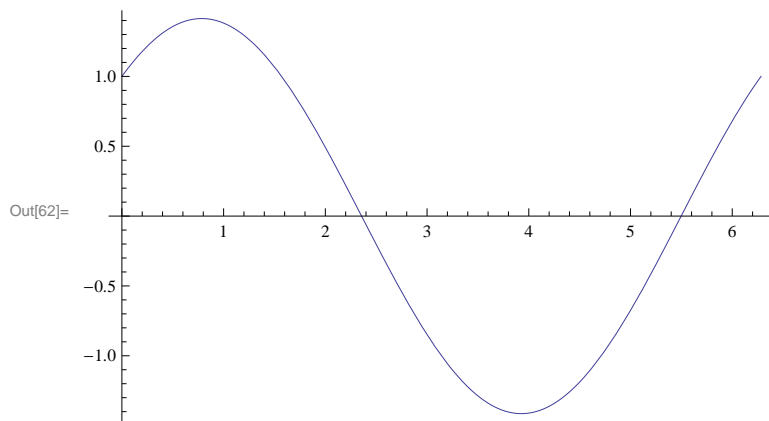
```
In[51]:= Plot[x^4 + x^2 + x, {x, 2, 3}]
```



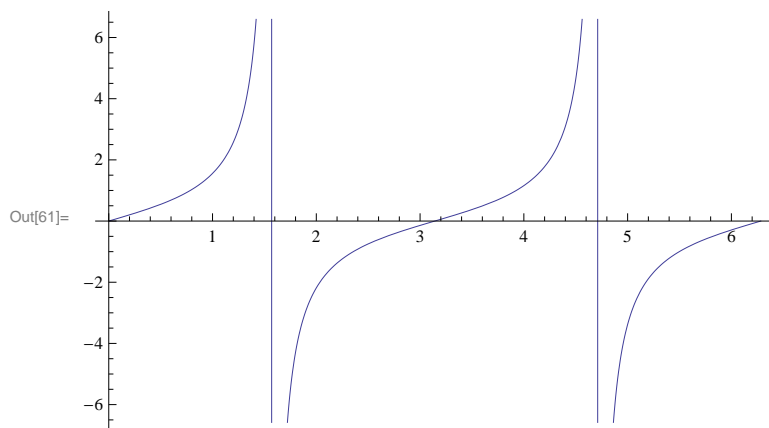
```
In[53]:= Plot[Sin[x] + Cos[x], {x, 0, 2 Pi}]
```



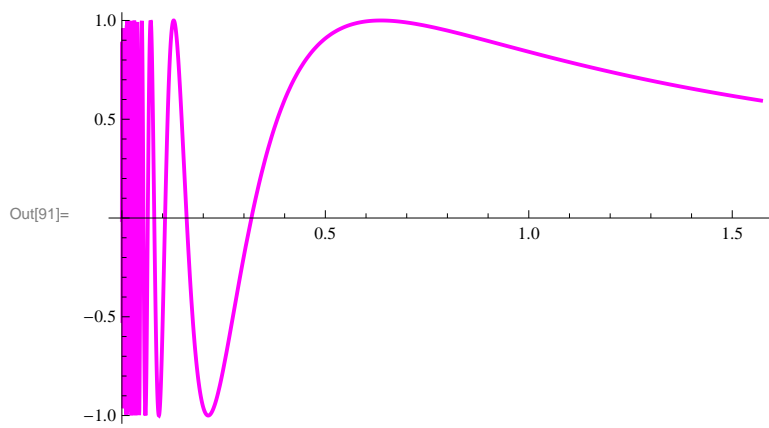
```
In[62]:= Plot[Sin[x] + Cos[x], {x, 0, 2 Pi}]
```



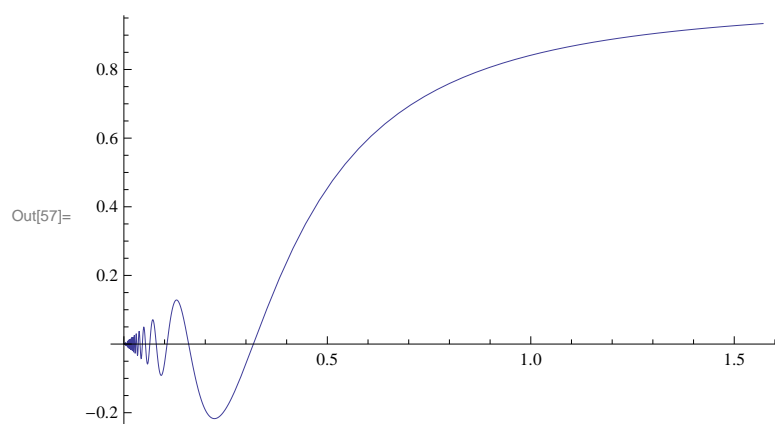
```
In[61]:= Plot[Tan[x], {x, 0, 2 Pi}]
```



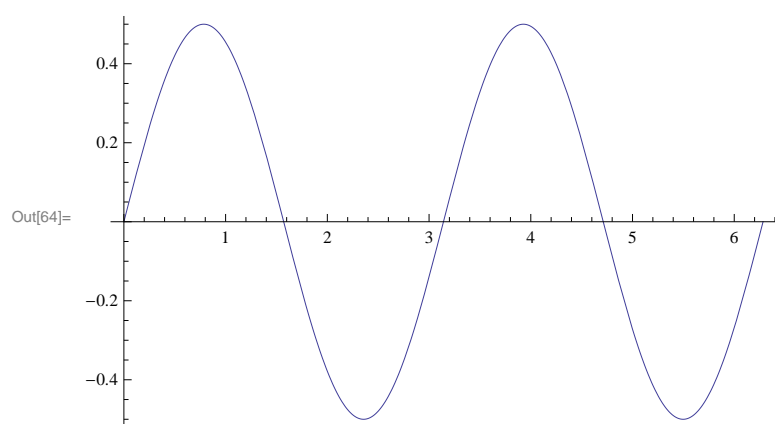
```
In[91]:= Plot[Sin[1/x], {x, 0, Pi/2}, PlotStyle -> {Magenta, Thick}]
```



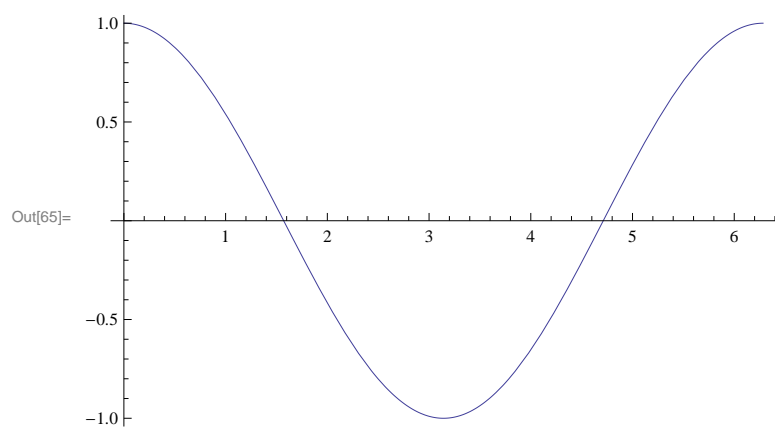
In[57]:= **Plot**[**x** * **Sin**[1 / **x**], {**x**, 0, **Pi** / 2}]



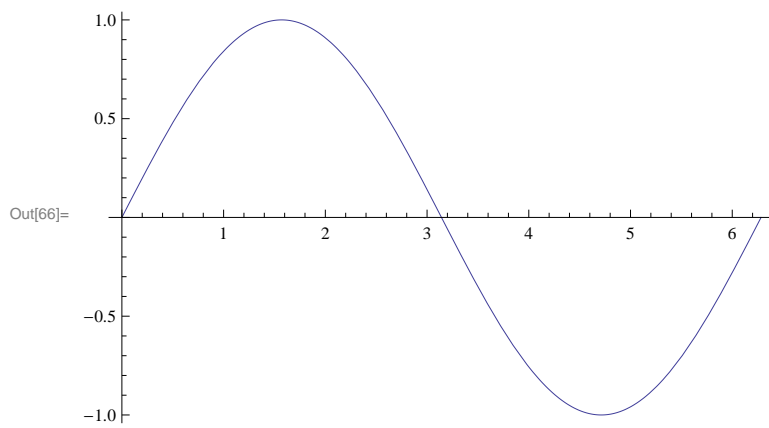
In[64]:= **Plot**[**Sin**[**x**] **Cos**[**x**], {**x**, 0, 2 **Pi**}]



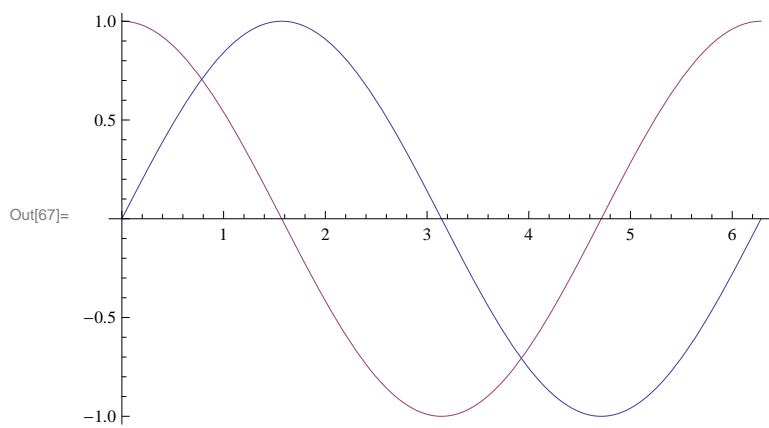
In[65]:= **Plot**[**Cos**[**x**], {**x**, 0, 2 **Pi**}]



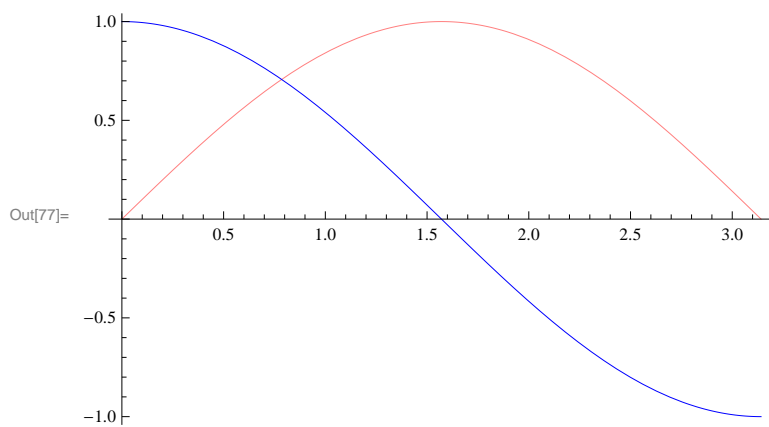
In[66]:= `Plot[Sin[x], {x, 0, 2 Pi}]`



In[67]:= `Plot[{Sin[x], Cos[x]}, {x, 0, 2 Pi}]` (If want two functions in same axis, use curly brackets)



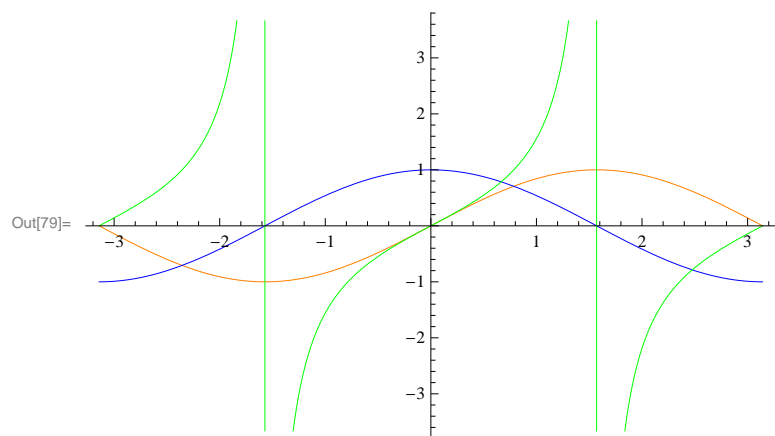
In[77]:= `Plot[{Sin[x], Cos[x]}, {x, 0, Pi}, PlotStyle -> {Pink, Blue}]`



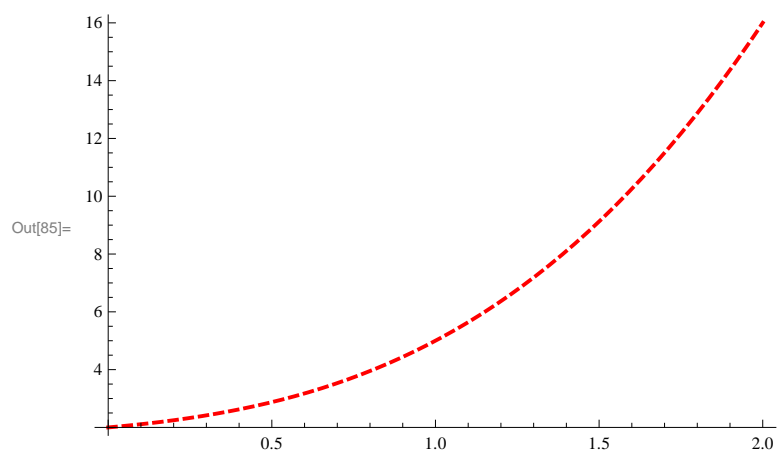
Commands

- (1) Plot
- (2) PlotStyle
- (3) Axeslabel
- (4) AxesOrigin

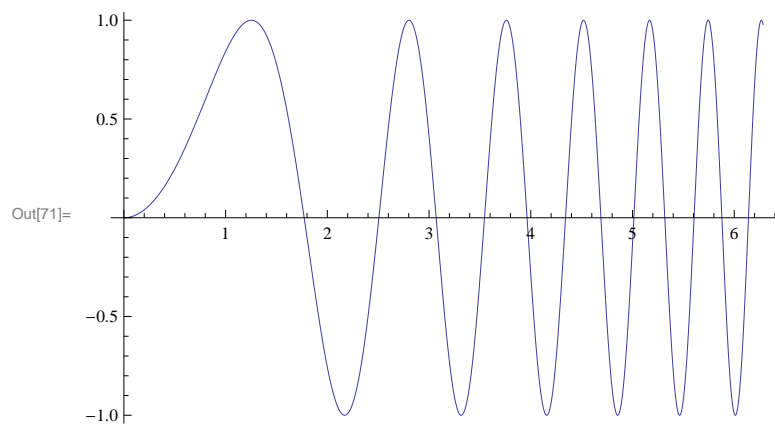

```
In[79]:= Plot[{Sin[x], Cos[x], Tan[x]}, {x, -Pi, Pi}, PlotStyle -> {Orange, Blue, Green}]
```



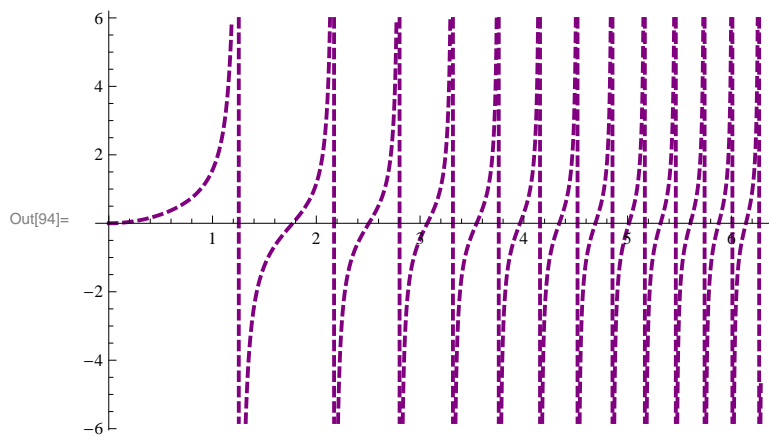
```
In[85]:= Plot[x^3 + x^2 + x + 2, {x, 0, 2}, PlotStyle -> {Red, Dashed, Thick}]
```



```
In[71]:= Plot[Sin[x^2], {x, 0, 2 Pi}]
```



```
In[94]:= Plot[Tan[x^2], {x, 0, 2 Pi}, PlotStyle -> {Purple, Thick, Dashed}]
```



```
Out[76]= PlotStyle[{Sin[x], Cos[x]}, {x, 0, 2 Pi}]
```

Thickness[0.01]

```
Plot[x^4 + x^2 + 2, {x, 2, 3}, PlotStyle -> {Magenta, Thick, Dotted}]
```

-> space

