

ListPlot

Review

1. Simplify[expression]
2. Simplify[expression ,n ∈ Integers]
3. Inputting symbols
a) 'ctrl' + '/'
b) 'esc' el 'esc'

Introduction

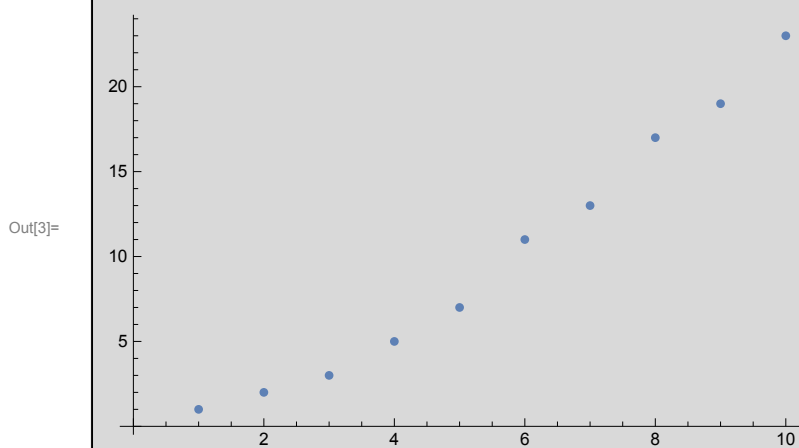
In[1]:= `list1 = {1, 2, 3, 5, 7, 11, 13, 17, 19, 23}`

Out[1]= `{1, 2, 3, 5, 7, 11, 13, 17, 19, 23}`

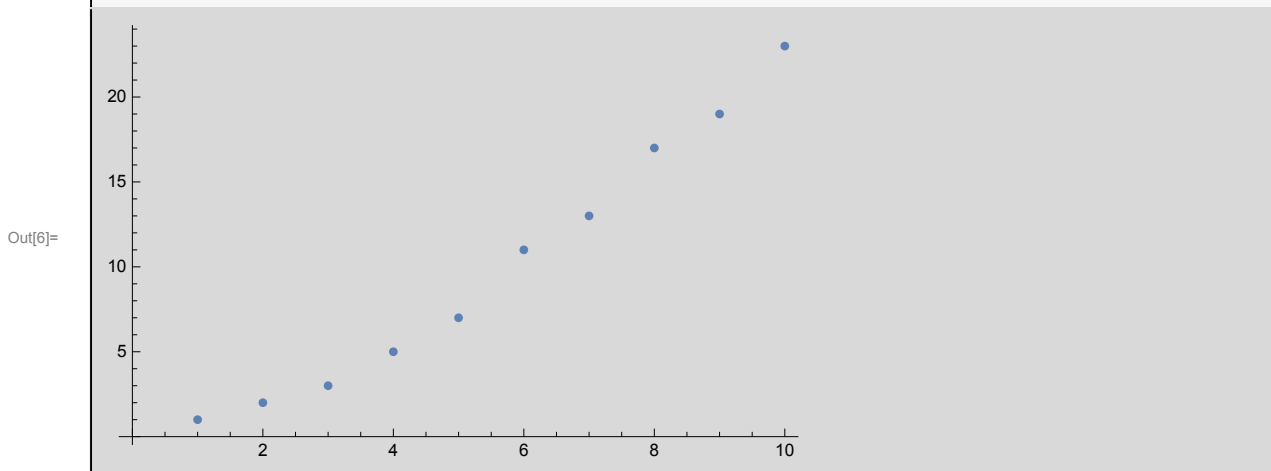
In[2]:= `list2 = {{1, 1}, {2, 2}, {3, 3}, {4, 5},
{5, 7}, {6, 11}, {7, 13}, {8, 17}, {9, 19}, {10, 23}}`

Out[2]= `{{1, 1}, {2, 2}, {3, 3}, {4, 5}, {5, 7},
{6, 11}, {7, 13}, {8, 17}, {9, 19}, {10, 23}}`

In[3]:= `ListPlot[list1]`



In[6]:= **ListPlot[list2]**



In[4]:= **Listplot[list1]**

Out[4]= Listplot[{1, 2, 3, 5, 7, 11, 13, 17, 19, 23}]

Extracting Elements

listname[[number]]

In[7]:= **list1**

Out[7]= {1, 2, 3, 5, 7, 11, 13, 17, 19, 23}

In[8]:= **list2**

Out[8]= {{1, 1}, {2, 2}, {3, 3}, {4, 5}, {5, 7},
{6, 11}, {7, 13}, {8, 17}, {9, 19}, {10, 23}}

list1[[5]]

7

list2[[5]]

{5, 7}

list2[[5, 1]]

5

list2[[5, 2]]

7

Applications of Table

Last time

```
Table[function[n], {n, nmin, nmax}]
```

Alternative

```
Table[function[n], {n, list}]
```

In[5]:=

```
list1
```

Out[5]=

```
{1, 2, 3, 5, 7, 11, 13, 17, 19, 23}
```

In[9]:=

```
f[n_] := n2
```

In[10]:=

```
list1a = Table[f[n], {n, list1}]
```

Out[10]=

```
{1, 4, 9, 25, 49, 121, 169, 289, 361, 529}
```

In[11]:=

```
g[n_] := Sin[n *  $\frac{\pi}{3}$ ]
```

In[12]:=

```
list3 = Table[g[n], {n, {1, 5, 3, 25, 275}}]
```

Out[12]=

```
{ $\frac{\sqrt{3}}{2}$ ,  $-\frac{\sqrt{3}}{2}$ , 0,  $\frac{\sqrt{3}}{2}$ ,  $-\frac{\sqrt{3}}{2}$ }
```

Summary

1. ListPlot[list]
2. listname[[n,m]]
3. Table[f[n] , {n, {list of values}}]