

MAT/19/80

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TO PRODUCING A TABLE OF VALUES

```
In[1]:= f[x_] := x ^ 2
```

```
In[2]:= Table[f[x], {x, 1, 10}]
```

```
Out[2]= {1, 4, 9, 16, 25, 36, 49, 64, 81, 100}
```

```
In[3]:= Table[f[x], {x, {1, 7, 12, 20}}]
```

```
Out[3]= {1, 49, 144, 400}
```

```
In[5]:= data = Table[{x, f[x]}, {x, 5}]
```

```
Out[5]= {{1, 1}, {2, 4}, {3, 9}, {4, 16}, {5, 25}}
```

```
In[6]:= Grid[data]
```

```
1  1  
2  4  
Out[6]= 3  9  
4 16  
5 25
```

```
In[7]:= Text@Grid[data, Alignment -> right]
```

```
1  1  
2  4  
Out[7]= 3  9  
4 16  
5 25
```

```
In[20]:= tables = Prepend[data, {"x", "x^2"}]
```

```
Out[20]= {{x, x^2}, {1, 1}, {2, 4}, {3, 9}, {4, 16}, {5, 25}}
```

In[30]:= `Text@Grid[tables, Alignment → right, Dividers → {Center, {False, True}}, spacing → 2]`

Out[30]=

x	x ²
1	1
2	4
3	9
4	16
5	25

In[31]:= `Text@Grid[tables, Alignment → right, Dividers → {2 → True, 2 → True}, spacing → 2]`

Out[31]=

x	x ²
1	1
2	4
3	9
4	16
5	25

In[28]:= `Clear[data];`

In[29]:= `data = Table[{10n, f[10n]}, {n, 0, 5}]`

Out[29]=

```
{1, 1}, {10, 100}, {100, 10 000}, {1000, 1 000 000},
{10 000, 100 000 000}, {100 000, 10 000 000 000}}
```

In[32]:= `Grid[Prepend[data, {x, x2}], Alignment → right, Dividers → All, spacing → 2]`

Out[32]=

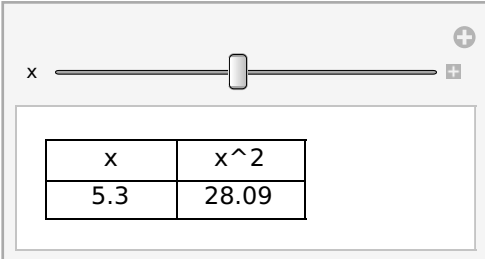
x	x ²
1	1
10	100
100	10 000
1000	1 000 000
10 000	100 000 000
100 000	10 000 000 000

MANIPULATING A GRID

In[33]:= `Manipulate[`

`Text@Grid[{"x", "x2"}, {x, x2}], Dividers → All, ItemSize → 5], {x, 5.3}, 1, 10, .1]`

Out[33]=

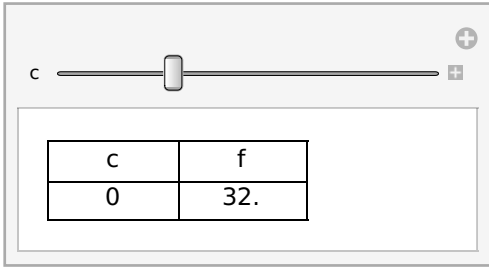


The screenshot shows a Manipulate interface with a slider for the variable 'x'. Below the slider is a grid table with two columns: 'x' and 'x²'. The current value of x is 5.3, and the corresponding value of x² is 28.09.

x	x ²
5.3	28.09

```
In[34]:= Manipulate[Text@Grid[{"c", "f"}, {c, 1.8 c + 32}], Dividers -> All, ItemSize -> 5],  
{{c, 0}, -40, 100, 1]
```

Out[34]=



The image shows a Mathematica Manipulate interface. At the top, there is a slider for the variable 'c'. The slider has a range from -40 to 100, with a current value of 0. Below the slider, there is a grid with two columns and two rows. The first row contains the labels 'c' and 'f'. The second row contains the values '0' and '32.'. The grid has all four cells divided by lines.

c	f
0	32.