Hexi — 2025-01-17 — PS 1

In[466]:=
```
#Exercise 1
1 + 2 + 3
```
Out[466]=
```
#Exercise
```
Out[467]=
```
6
```

In[468]:=
```
1 + 2 + 3 + 4 + 5
```
Out[468]=
```
15
```

In[469]:=
```
1 * 2 * 3 * 4 * 5
```
Out[469]=
```
120
```

In[470]:=
```
5 ^ 2
```
Out[470]=
```
25
```

In[471]:=
```
3 ^ 4
```
Out[471]=
```
81
```

In[472]:=
```
10 ^ 12
```
Out[472]=
```
1 000 000 000 000
```

In[473]:=
```
3 ^ (7 * 8)
```
Out[473]=
```
523 347 633 027 360 537 213 511 521
```

In[474]:=
```
(4 - 2) * (3 + 4)
```
Out[474]=
```
14
```

For making your own comments, do

(* Exercises from Section 1 *)

not

#Exercises from Section 1

The hashmark is special in Mathematica.

So are (and *, but when they are put together as (* they open a comment. And similarly *) closes a comment.

Almost perfect. See comment on comments above.

Also see comment on p. 8.

Finally, I didn't mean for people to do all the bonus exercises! But good on you!

10/10

In[475]:=
```
29 000 * 73
```
Out[475]=
```
2 117 000
```

In[476]:=

```
-3 + -2 + -1 + 0 + 1 + 2 + 3
```
Out[476]=
```
0
```

In[477]:=
```
24 / 3
```
Out[477]=
```
8
```

In[478]:=
```
5 ^ 100
```
Out[478]=
```
7 888 609 052 210 118 054 117 285 652 827 862 296 732 064 351 090 230 047 702 789 306 640 625
```

In[479]:=
```
100 - 5 ^ 2
```
Out[479]=
```
75
```

In[480]:=
```
6 * 5 ^ 2 + 7
```
Out[480]=
```
157
```

In[481]:=
```
3 ^ 2 - 2 ^ 3
```
Out[481]=
```
1
```

In[482]:=
```
2 ^ 3 * 3 ^ 2
```
Out[482]=
```
72
```

In[483]:=
```
(8 + (-11)) * 2
```
Out[483]=
```
-6
```

In[484]:=

```
#Exercise 2
```
Out[484]=
```
2 #Exercise
```

In[485]:=
```
Plus[7, 6, 5]
```
Out[485]=
```
18
```

In[486]:=
```
Times[2, Plus[3, 4]]
```
Out[486]=
```
14
```

In[487]:=
```
Max[6 * 8, 5 * 9]
```
Out[487]=
```
48
```

In[488]:=
```
RandomInteger[1000]
```
Out[488]=
```
137
```

In[489]:=
```
Plus[RandomInteger[10], 10]
```
Out[489]=
```
11
```

In[490]:=
```
Times[5, 4, 3, 2]
```
Out[490]=
```
120
```

In[491]:=
```
Subtract[2, 3]
```
Out[491]=
```
-1
```

In[492]:=
```
Times[Plus[8, 7], Plus[9, 2]]
```
Out[492]=
```
165
```

In[493]:=
```
Divide[Subtract[26, 89], 9]
```
Out[493]=
```
-7
```

In[494]:=
```
Subtract[100, Power[5, 2]]
```
Out[494]=
```
75
```

In[495]:=
```
Max[3^5, 5^3]
```
Out[495]=
```
243
```

In[496]:=
```
Times [3, Max[3^4, 4^3]]
```
Out[496]=
```
243
```

In[497]:=
```
Plus[RandomInteger[1000], RandomInteger[1000]]
```
Out[497]=
```
923
```

In[498]:=

In[499]:=
```
#Exercise 3
```
Out[499]=
```
3 #Exercise
```

In[500]:=
```
Range[4]
```
Out[500]=
```
{1, 2, 3, 4}
```

In[501]:=
```
Range[100]
```
Out[501]=
```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22,
 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,
 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62,
 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81,
 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100}
```

In[502]:=
```
Reverse[Range[4]]
```
Out[502]=
```
{4, 3, 2, 1}
```

In[503]:=
```
Reverse[Range[50]]
```
Out[503]=
```
{50, 49, 48, 47, 46, 45, 44, 43, 42, 41, 40, 39, 38, 37,
 36, 35, 34, 33, 32, 31, 30, 29, 28, 27, 26, 25, 24, 23, 22, 21, 20,
 19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1}
```

In[504]:=
```
Join[Range[4], Reverse[Range[4]]]
```
Out[504]=
```
{1, 2, 3, 4, 4, 3, 2, 1}
```

In[505]:=
```
Join[Range[100], Reverse[Range[100]]]
```
Out[505]=
```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22,
 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,
 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62,
 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81,
 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100,
 100, 99, 98, 97, 96, 95, 94, 93, 92, 91, 90, 89, 88, 87, 86, 85, 84, 83, 82,
 81, 80, 79, 78, 77, 76, 75, 74, 73, 72, 71, 70, 69, 68, 67, 66, 65, 64, 63, 62,
 61, 60, 59, 58, 57, 56, 55, 54, 53, 52, 51, 50, 49, 48, 47, 46, 45, 44, 43, 42,
 41, 40, 39, 38, 37, 36, 35, 34, 33, 32, 31, 30, 29, 28, 27, 26, 25, 24, 23,
 22, 21, 20, 19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1}
```

In[506]:=
```
Range[RandomInteger[10]]
```
Out[506]=
```
{}
```

In[507]:=
```
Join[{1, 2}, {3, 4}, {5}]
```
Out[507]=
```
{1, 2, 3, 4, 5}
```

In[508]:=
```
Join[Range[10], Range[10], Range[5]]
```
Out[508]=
```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 1, 2, 3, 4, 5}
```

In[509]:=
```
Join[Range[20], Reverse[Range[20]]]
```
Out[509]=
```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19,
 20, 20, 19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1}
```

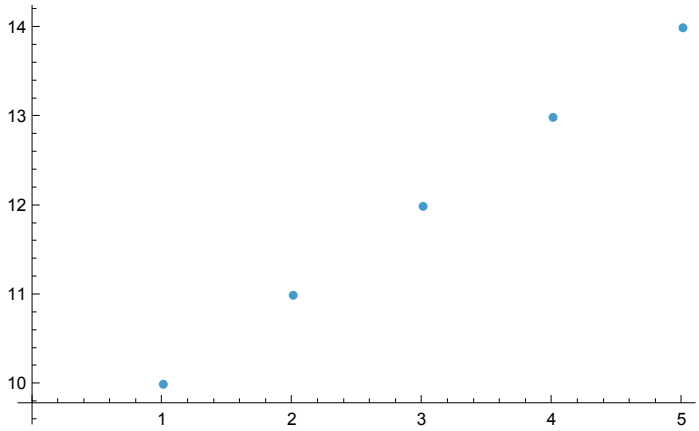
In[510]:=
```
Reverse[Reverse[{1, 2, 3, 4}]]
```
Out[510]=
```
{1, 2, 3, 4}
```

In[511]:=
```
Join[Range[5], Reverse[Range[4]]]
```
Out[511]=
```
{1, 2, 3, 4, 5, 4, 3, 2, 1}
```

In[512]:=
```
Join[Reverse[Range[3]], Reverse[Range[4]], Reverse[Range[5]]]
```
Out[512]=
```
{3, 2, 1, 4, 3, 2, 1, 5, 4, 3, 2, 1}
```

In[513]:=
```
ListPlot[{10, 11, 12, 13, 14}]
```

Out[513]=



In[514]:=
```
Join[Range[10], Reverse[Range[10]], Range[10]]
```

Out[514]=
```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
```

In[515]:=
```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
```

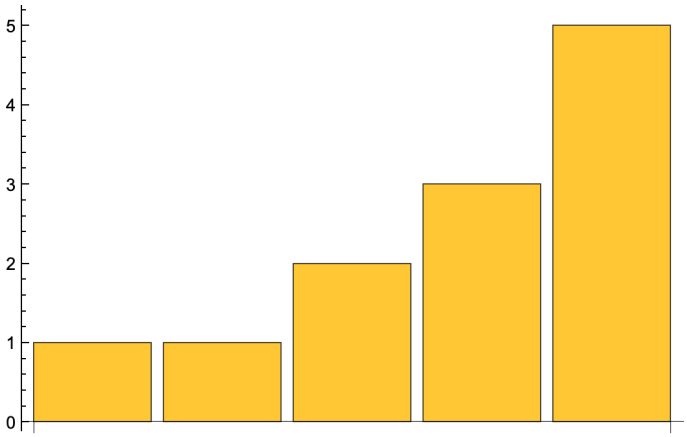
Out[515]=
```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
```

In[516]:=
```
#Exercise 4
```

Out[516]=
```
4 #Exercise
```

In[517]:=
```
BarChart[{1, 1, 2, 3, 5}]
```

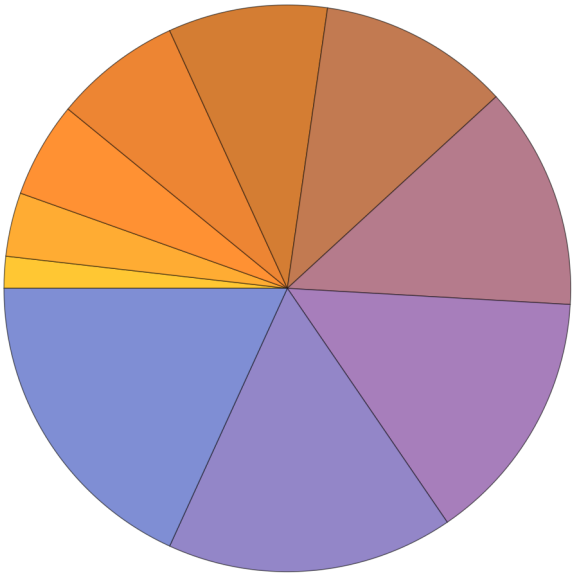
Out[517]=



In[518]:=

```
PieChart[Range[10]]
```

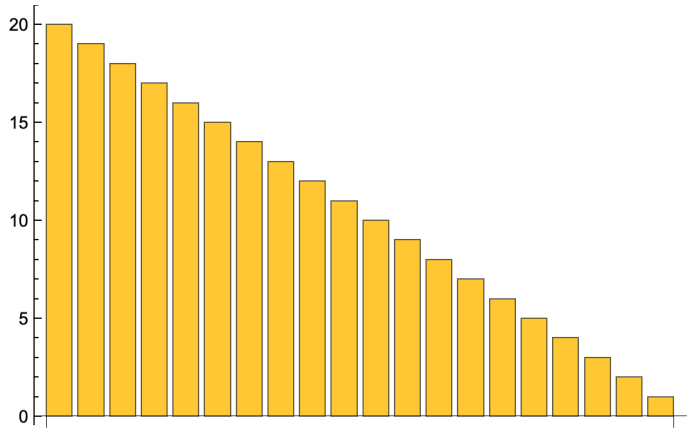
Out[518]=



In[519]:=

```
BarChart[Reverse[Range[20]]]
```

Out[519]=



In[520]:=

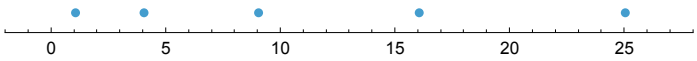
```
Column[Range[5]]
```

Out[520]=

```
1
2
3
4
5
```

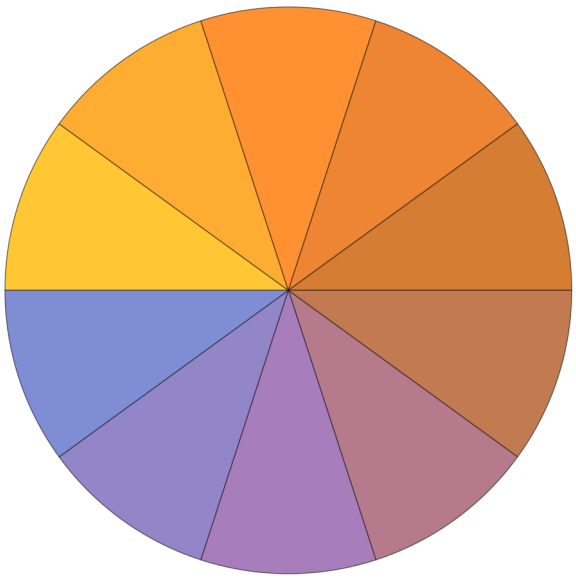
In[521]:=
```
NumberLinePlot[{1, 4, 9, 16, 25}]
```

Out[521]=



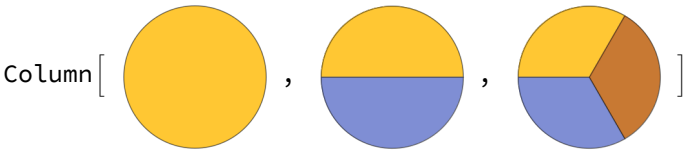
In[522]:=
```
PieChart[{1, 1, 1, 1, 1, 1, 1, 1, 1, 1}]
```

Out[522]=



In[523]:=
```
Column[PieChart[{1}], PieChart[{1, 1}], PieChart[{1, 1, 1}]]
```

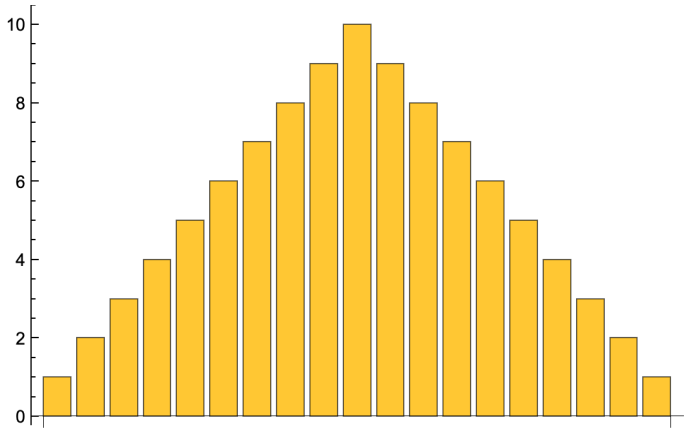
Out[523]=



This didn't work.
It is important to figure out why.
Hint: you have given Column
three arguments. That is not what
it is looking for.

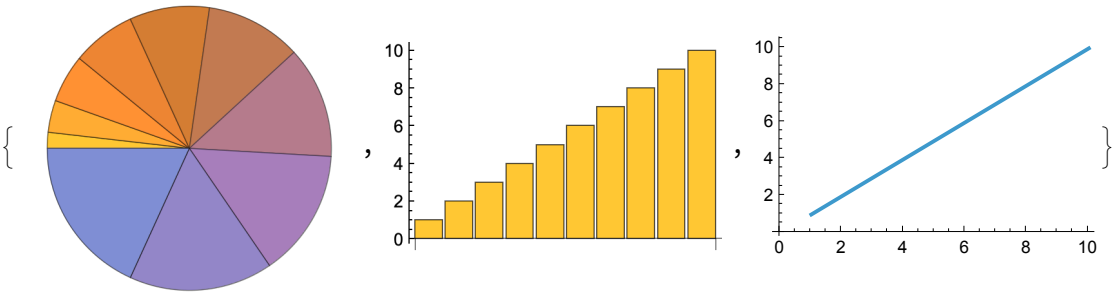
In[524]:=
```
BarChart[Join[Range[10], Reverse[Range[9]]]]
```

Out[524]=



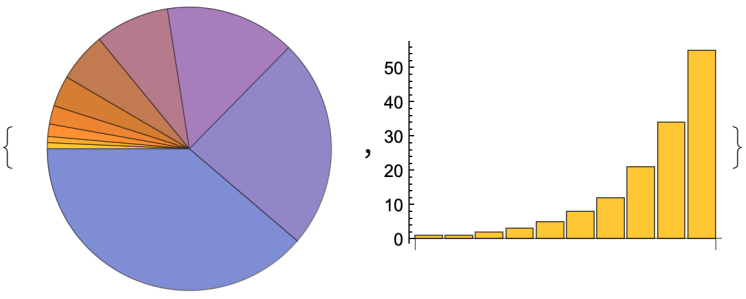
In[525]:=
```
{PieChart[Range[10]], BarChart[Range[10]], ListLinePlot[Range[10]]}
```

Out[525]=



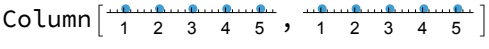
In[526]:=
```
{PieChart[{1, 1, 2, 3, 5, 8, 12, 21, 34, 55}],
 BarChart[{1, 1, 2, 3, 5, 8, 12, 21, 34, 55}]}
```

Out[526]=



In[527]:=
```
Column[NumberLinePlot[Range[5]], NumberLinePlot[Range[5]]]
```

Out[527]=



In[528]:=

```
NumberLinePlot[{1 / 2, 1 / 3, 1 / 4, 1 / 5, 1 / 6, 1 / 7, 1 / 8, 1 / 9}]
```

Out[528]=