

Tahm — 2025-01-17 — PS 1

In[376]:=

1 + 2 + 3

Out[376]=

6

In[377]:=

1 + 2 + 3 + 4 + 5

Out[377]=

15

In[378]:=

5 ^ 2

Out[378]=

25

In[379]:=

3 ^ 4

Out[379]=

81

In[380]:=

10 ^ 12

Out[380]=

1 000 000 000 000

In[381]:=

3 ^ (7 * 8)

Out[381]=

523 347 633 027 360 537 213 511 521

In[382]:=

(4 - 2) * (3 + 4)

Out[382]=

14

In[383]:=

29 000 * 73

Out[383]=

2 117 000

In[384]:=

-3 + -2 + -1 + 1 + 2 + 3

Out[384]=

0

In[385]:=

24 * (1 / 3)

Out[385]=

8

In[386]:=

5 ^ 100

Out[386]=

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[387]:=

100 - (5 ^ 2)

Out[387]=

75

In[388]:=

6 * 5 ^ 2 + 7

Out[388]=

157

In[389]:=

3 ^ 2 - 2 ^ 3

Out[389]=

1

In[390]:=

2 ^ 3 * 3 ^ 2

Out[390]=

72

In[391]:=

2 * (8 + -11)

Out[391]=

-6

Chapter 2 Exercises

In[392]:=

Plus[7, 6, 5]

Out[392]=

18

In[393]:=

Times[2 * Plus[3, 4]]

Out[393]=

14

In[394]:=

Max[Times[6, 8], Times[5, 9]]

Out[394]=

48

In[395]:=

RandomInteger[1000]

Out[395]=

885

```
In[396]:= Plus[10 + RandomInteger[10]]
```

```
Out[396]= 16
```

```
In[397]:= Times[5, 4, 3, 2]
```

```
Out[397]= 120
```

```
In[398]:= Times[Plus[8, 7], Plus[9, 2]]
```

```
Out[398]= 165
```

```
In[399]:= Divide[Subtract[26, 89], 9]
```

```
Out[399]= -7
```

```
In[400]:= Subtract[100, Power[5, 2]]
```

```
Out[400]= 75
```

```
In[401]:= Max[3^5, 5^3]
```

```
Out[401]= 243
```

```
In[402]:= Times[3, Max[3^5, 5^3]]
```

```
Out[402]= 729
```

```
In[403]:= Plus[RandomInteger[1000], RandomInteger[1000]]
```

```
Out[403]= 1011
```

Chapter 3 Exercises

```
In[404]:= Range[4]
```

```
Out[404]= {1, 2, 3, 4}
```

In[405]:=

Range[100]

Out[405]=

```
{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[406]:=

Reverse[Range[4]]

Out[406]=

```
{4, 3, 2, 1}
```

In[407]:=

Reverse[Range[50]]

Out[407]=

```
{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[408]:=

Join[Range[4], Reverse[Range[4]]]

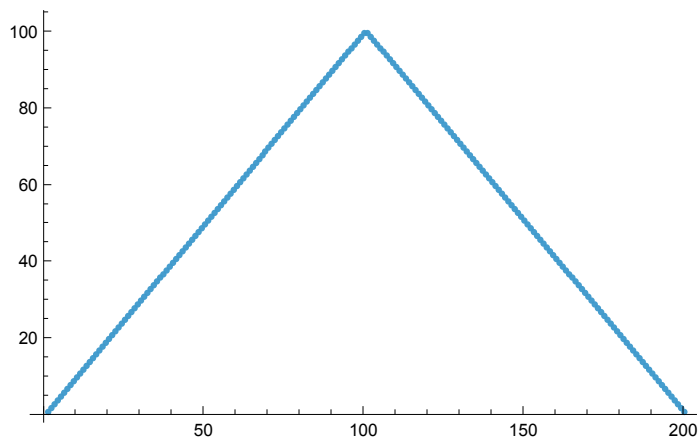
Out[408]=

```
{1, 2, 3, 4, 4, 3, 2, 1}
```

In[409]:=

ListPlot[Join[Range[100], Reverse[Range[100]]]]

Out[409]=



In[410]:=

Range[RandomInteger[10]]

Out[410]=

```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
```

In[411]:=

Range[10]

Out[411]=

```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
```

In[412]:=

Join[1, 2, 3, 4, 5]

Out[412]=

Join[1, 2, 3, 4, 5]

In[413]:=

Join[Range[10], Range[10], Range[5]]

Out[413]=

{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[414]:=

Join [Range[20], Reverse[Range[20]]]

Out[414]=

{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[415]:=

Reverse[Reverse[Range[4]]]

Out[415]=

{1, 2, 3, 4}

In[416]:=

Join[Range[4], Reverse[Range[4]]]

Out[416]=

{1, 2, 3, 4, 4, 3, 2, 1}

In[417]:=

Join[Reverse[Range[3]], Reverse[Range[4], Reverse[Range[5]]]]

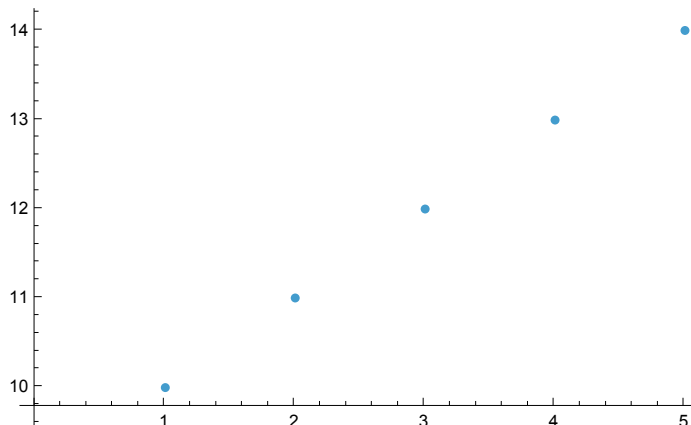
Out[417]=

{3, 2, 1, 4, 3, 2, 1}

In[418]:=

ListPlot[{10, 11, 12, 13, 14}]

Out[418]=



In[419]:=

Join[Range[10], Reverse[Range[10]], Range[10]]

Out[419]=

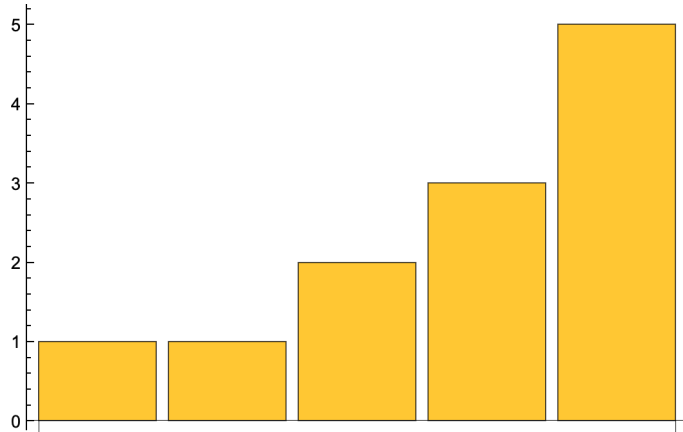
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

Chapter 4

In[420]:=

BarChart[{1, 1, 2, 3, 5}]

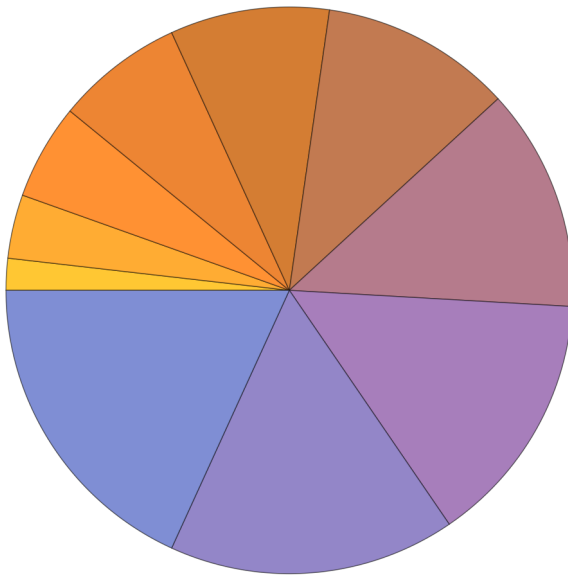
Out[420]=



In[421]:=

PieChart[Range[10]]

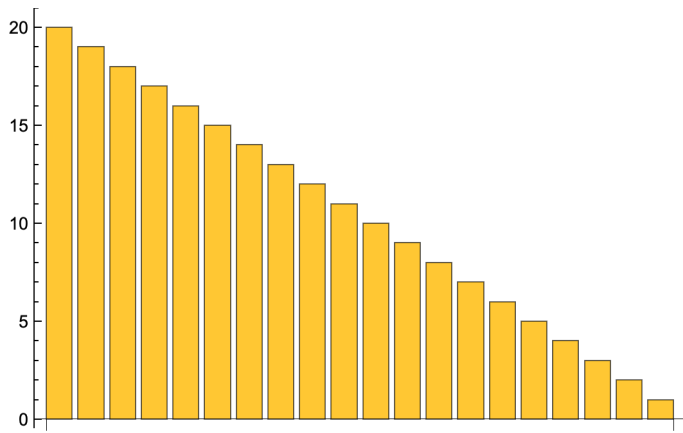
Out[421]=



In[422]:=

BarChart[Reverse[Range[20]]]

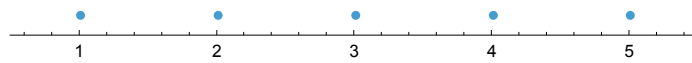
Out[422]=



In[423]:=

NumberLinePlot[{1, 2, 3, 4, 5}]

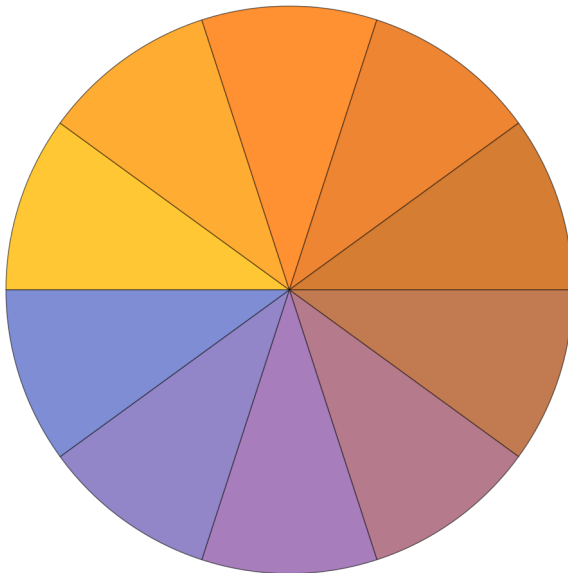
Out[423]=



In[424]:=

PieChart[{List[1, 1, 1, 1, 1, 1, 1, 1, 1, 1]}]

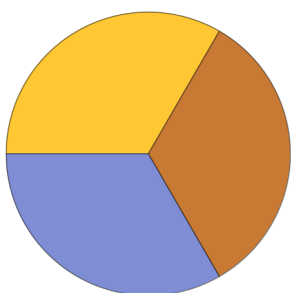
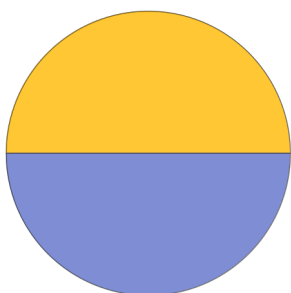
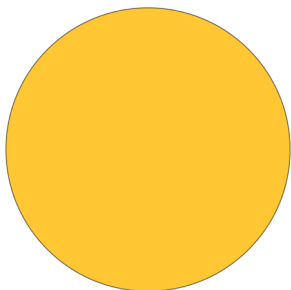
Out[424]=



In[425]:=

Column[{PieChart[{1}], PieChart[{1, 1}], PieChart[{1, 1, 1}]}]

Out[425]=

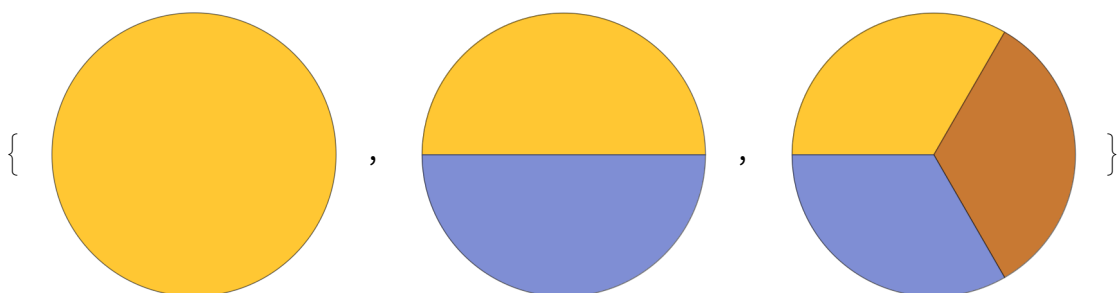


In[426]:=

In[427]:=

Join[{PieChart[{1}], PieChart[{1, 1}], PieChart[{1, 1, 1}]}]

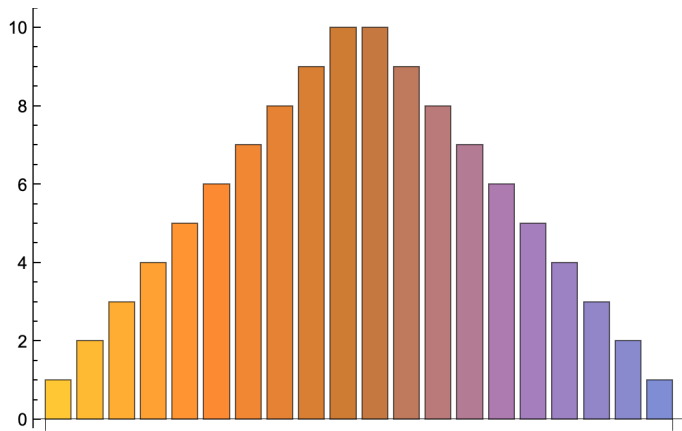
Out[427]=



In[428]:=

```
BarChart[{Join[Range[10], Reverse[Range[10]]]}
```

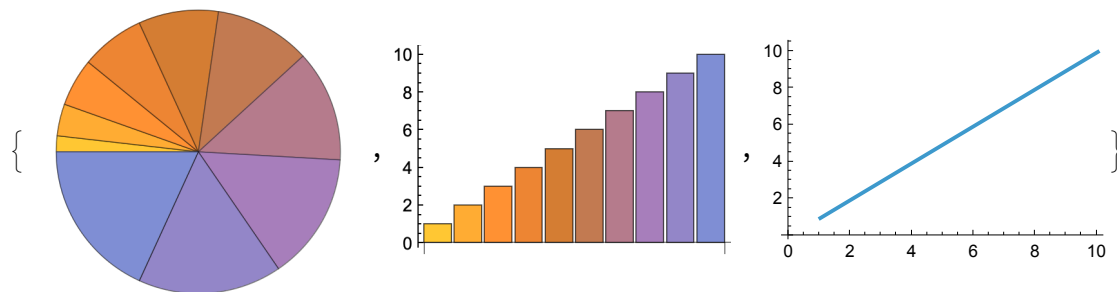
Out[428]=



In[429]:=

```
List[PieChart[{Join[Range[10]]}],  
BarChart[{Join[Range[10]]}], ListLinePlot[{Join[Range[10]]}]]
```

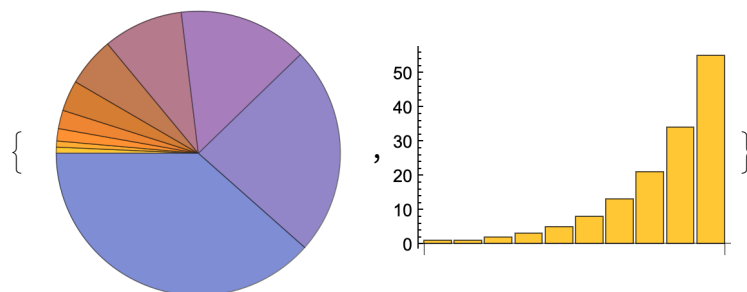
Out[429]=



In[430]:=

```
List[PieChart[{1, 1, 2, 3, 5, 8, 13, 21, 34, 55}],  
BarChart[{1, 1, 2, 3, 5, 8, 13, 21, 34, 55}]]
```

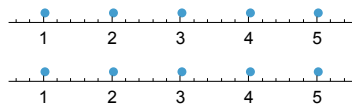
Out[430]=



In[431]:=

Column[{NumberLinePlot[{1, 2, 3, 4, 5}], NumberLinePlot[{1, 2, 3, 4, 5}]}]

Out[431]=



In[432]:=

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

Out[432]=

