

# Tahm — 2025-01-17 — PS 1

In[392]:=

**1 + 2 + 3**

Out[392]=

6

In[393]:=

**1 + 2 + 3 + 4 + 5**

Out[393]=

15

In[394]:=

**5 ^ 2**

Out[394]=

25

In[395]:=

**3 ^ 4**

Out[395]=

81

In[396]:=

**10 ^ 12**

Out[396]=

1 000 000 000 000

In[397]:=

**3 ^ (7 \* 8)**

Out[397]=

523 347 633 027 360 537 213 511 521

In[398]:=

**(4 - 2) \* (3 + 4)**

Out[398]=

14

In[399]:=

**29 000 \* 73**

Out[399]=

2 117 000

In[400]:=

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

Out[400]=

0

In[401]:=

**24 \* (1 / 3)**

Out[401]=

8

In[402]:=

**5 ^ 100**

Out[402]=

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[403]:=

**100 - (5 ^ 2)**

Out[403]=

75

In[404]:=

**6 \* 5 ^ 2 + 7**

Out[404]=

157

In[405]:=

**3 ^ 2 - 2 ^ 3**

Out[405]=

1

In[406]:=

**2 ^ 3 \* 3 ^ 2**

Out[406]=

72

In[407]:=

**2 \* (8 + -11)**

Out[407]=

-6

## Chapter 2 Exercises

In[408]:=

**Plus[7, 6, 5]**

Out[408]=

18

In[409]:=

**Times[2 \* Plus[3, 4]]**

Out[409]=

14

In[410]:=

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

Out[410]=

48

In[411]:=

**RandomInteger[1000]**

Out[411]=

707

```
In[412]:= Plus[10 + RandomInteger[10]]
```

```
Out[412]= 16
```

```
In[413]:= Times[5, 4, 3, 2]
```

```
Out[413]= 120
```

```
In[414]:= Times[Plus[8, 7], Plus[9, 2]]
```

```
Out[414]= 165
```

```
In[415]:= Divide[Subtract[26, 89], 9]
```

```
Out[415]= -7
```

```
In[416]:= Subtract[100, Power[5, 2]]
```

```
Out[416]= 75
```

```
In[417]:= Max[3^5, 5^3]
```

```
Out[417]= 243
```

```
In[418]:= Times[3, Max[3^5, 5^3]]
```

```
Out[418]= 729
```

```
In[419]:= Plus[RandomInteger[1000], RandomInteger[1000]]
```

```
Out[419]= 1515
```

### Chapter 3 Exercises

```
In[420]:= Range[4]
```

```
Out[420]= {1, 2, 3, 4}
```

In[421]:=

**Range[100]**

Out[421]=

```
{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[422]:=

**Reverse[Range[4]]**

Out[422]=

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

In[423]:=

**Reverse[Range[50]]**

Out[423]=

```
{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[424]:=

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

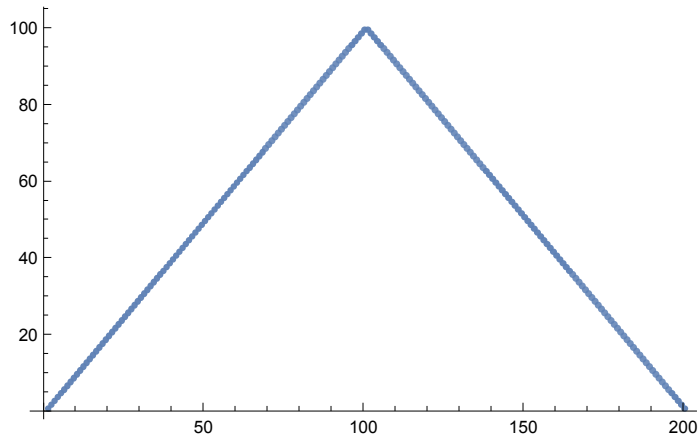
Out[424]=

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

In[425]:=

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

Out[425]=



In[426]:=

**Range[RandomInteger[10]]**

Out[426]=

```
{1, 2, 3, 4, 5, 6}
```

In[427]:=

**Range[10]**

Out[427]=

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

In[428]:=

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

Out[428]=

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

In[429]:=

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

Out[429]=

{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[430]:=

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

Out[430]=

{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[431]:=

**Reverse[Reverse[Range[4]]]**

Out[431]=

{1, 2, 3, 4}

In[432]:=

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

Out[432]=

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

In[433]:=

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

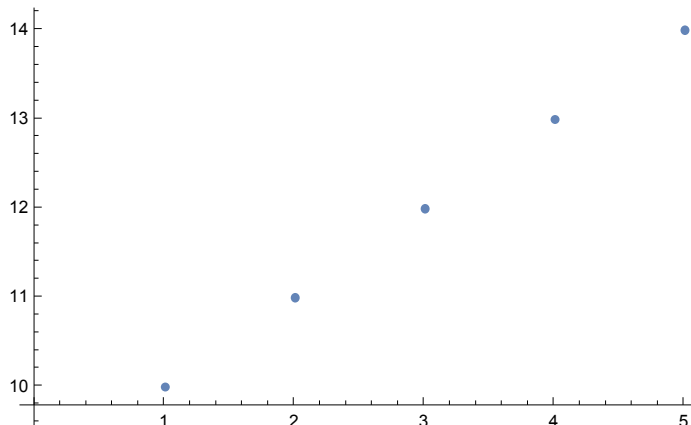
Out[433]=

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

In[434]:=

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

Out[434]=



In[435]:=

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

Out[435]=

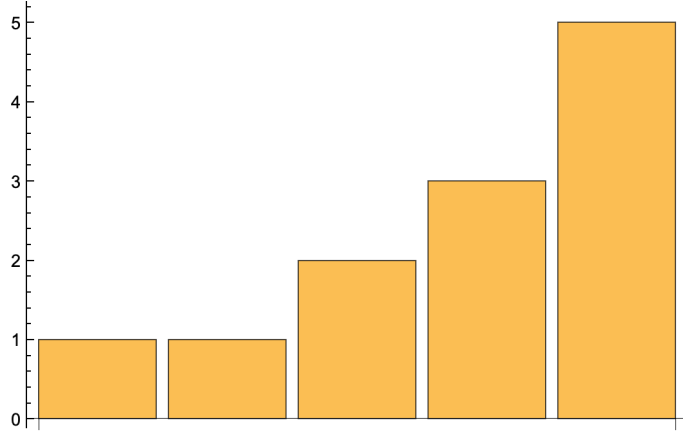
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

## Chapter 4

In[436]:=

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

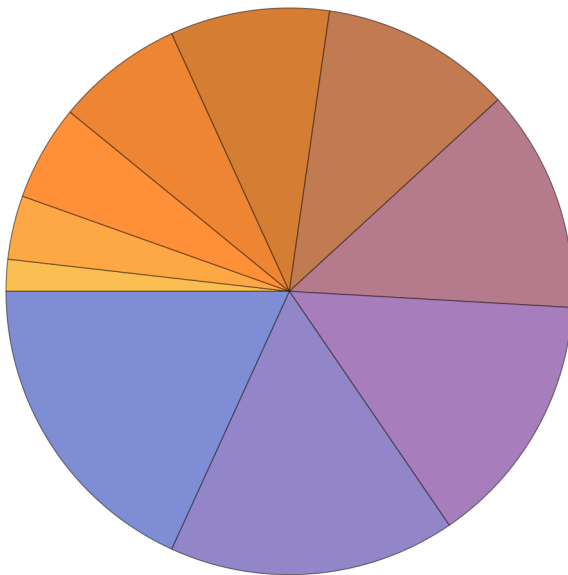
Out[436]=



In[437]:=

**PieChart[Range[10]]**

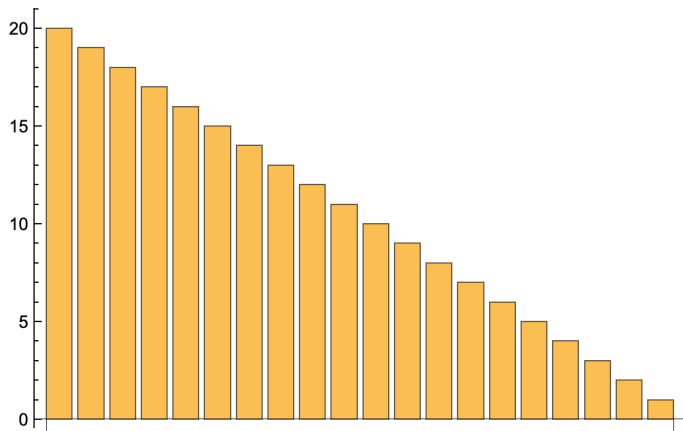
Out[437]=



In[438]:=

**BarChart[Reverse[Range[20]]]**

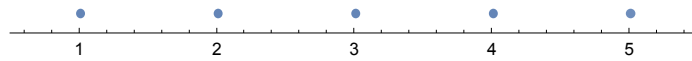
Out[438]=



In[439]:=

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

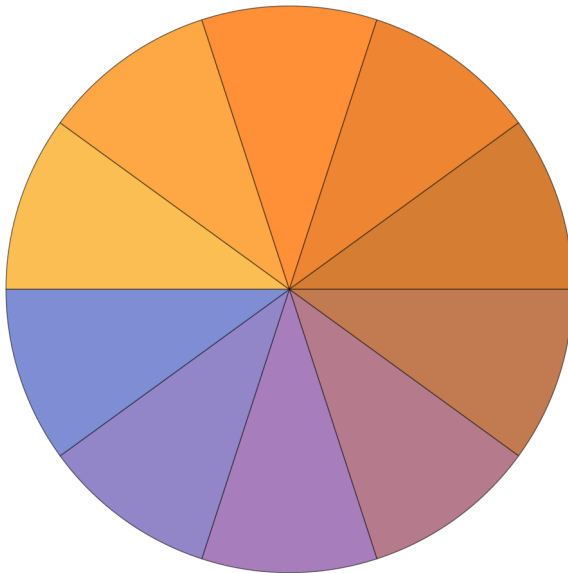
Out[439]=



In[440]:=

**PieChart[Table[1, {10}]]**

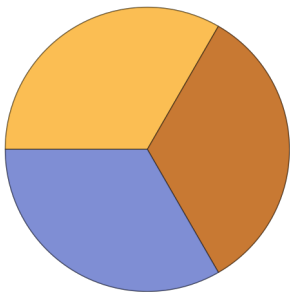
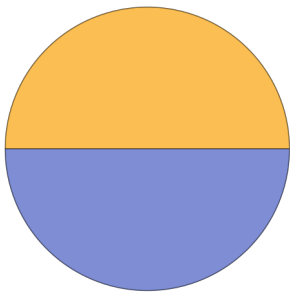
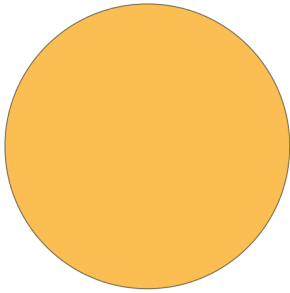
Out[440]=



```
In[441]:=
```

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

```
Out[441]=
```



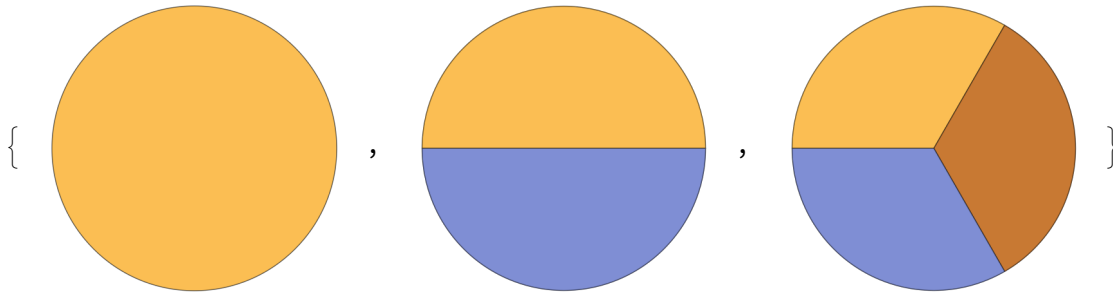
```
In[442]:=
```



In[443]:=

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

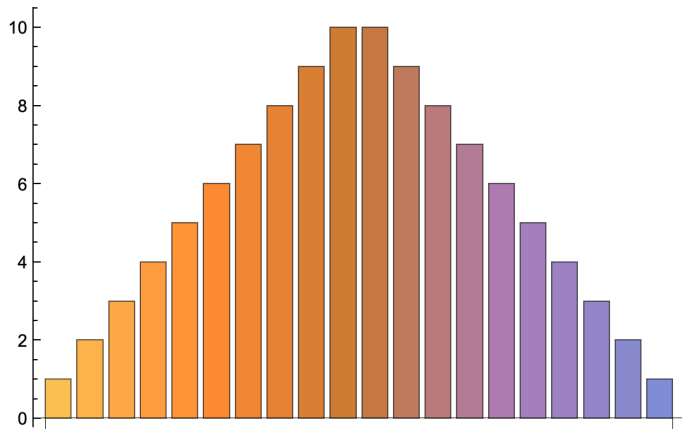
Out[443]=



In[444]:=

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

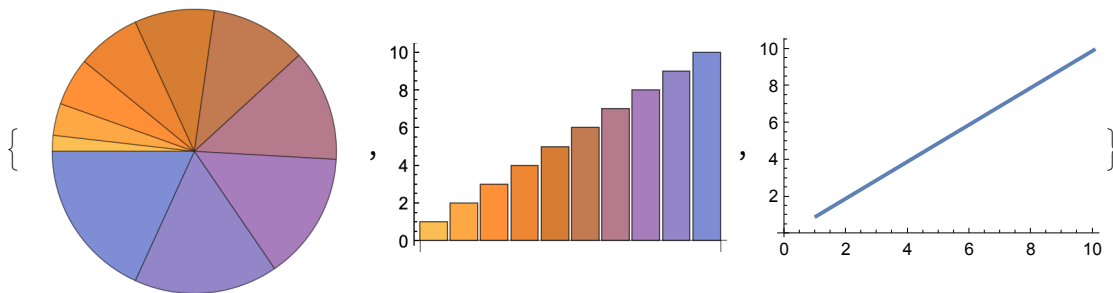
Out[444]=



In[445]:=

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

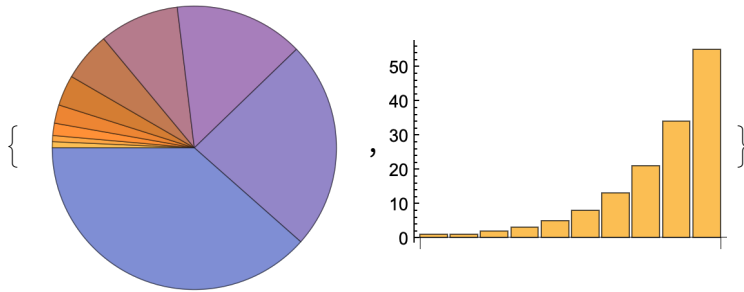
Out[445]=



In[446]:=

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

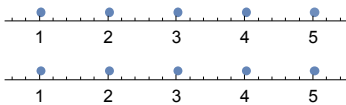
Out[446]=



In[447]:=

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

Out[447]=



In[448]:=

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

Out[448]=

