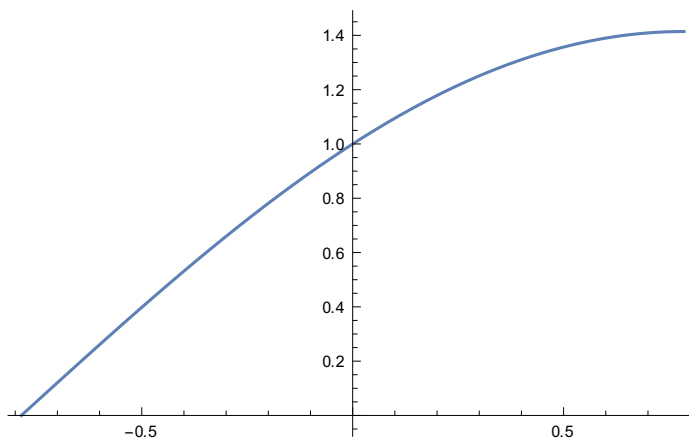# practice sheet 2

---

1. Plot the graph.

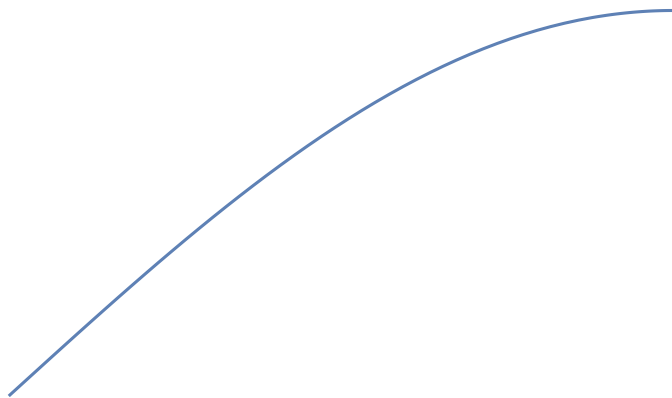In[6]:=
```
Plot[Sin[x] + Cos[x], {x, -Pi / 4, Pi / 4}]
```
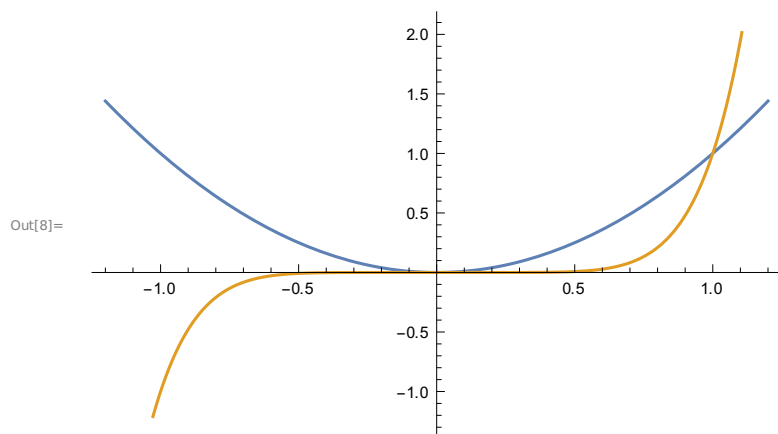
Out[6]=

In[7]:=
```
Plot[Sin[x] + Cos[x], {x, -Pi / 4, Pi / 4}, Axes → False]
```
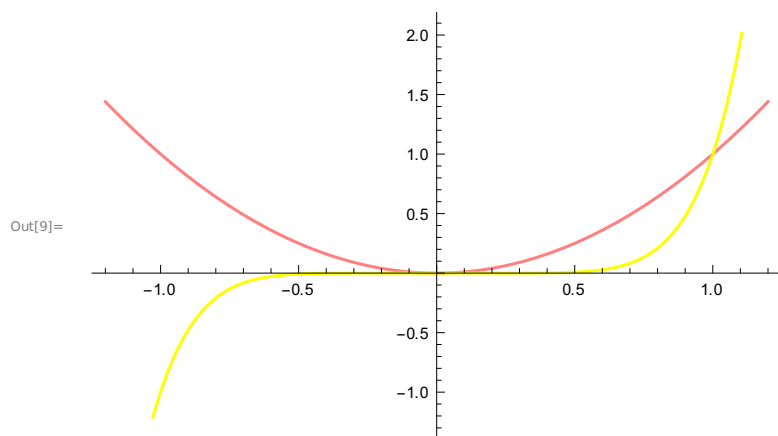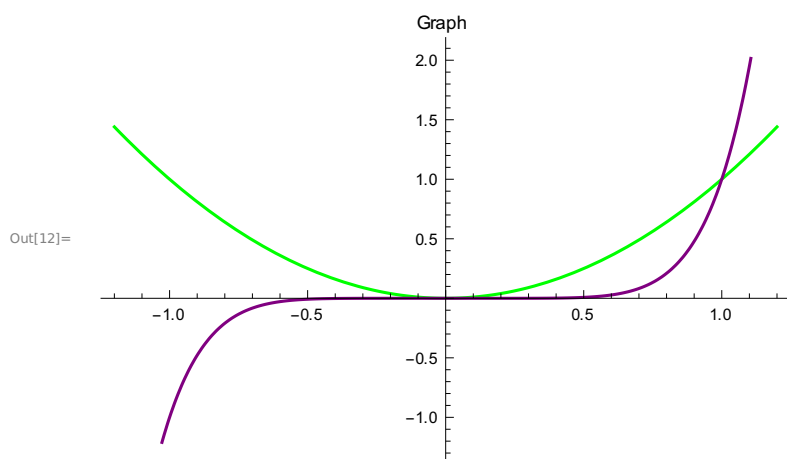
Out[7]=

In[8]:= `Plot[{x^2, x^7}, {x, -1.2, 1.2}]`

Out[8]=

In[9]:= `Plot[{x^2, x^7}, {x, -1.2, 1.2}, PlotStyle → {Pink, Yellow}]`

Out[9]=

In[12]:= `Plot[{x^2, x^7}, {x, -1.2, 1.2}, PlotStyle → {Green, Purple}, PlotLabel → Graph]`

Out[12]=

2. Find how a 3D curve of the following expressions look.

In[13]:= `Plot3D [{Cos[u], Sin[u] + Cos[v], Sin[v]}, {u, 0, 2 * Pi}, {v, -2 * Pi, 2 * Pi}]`

Out[13]=
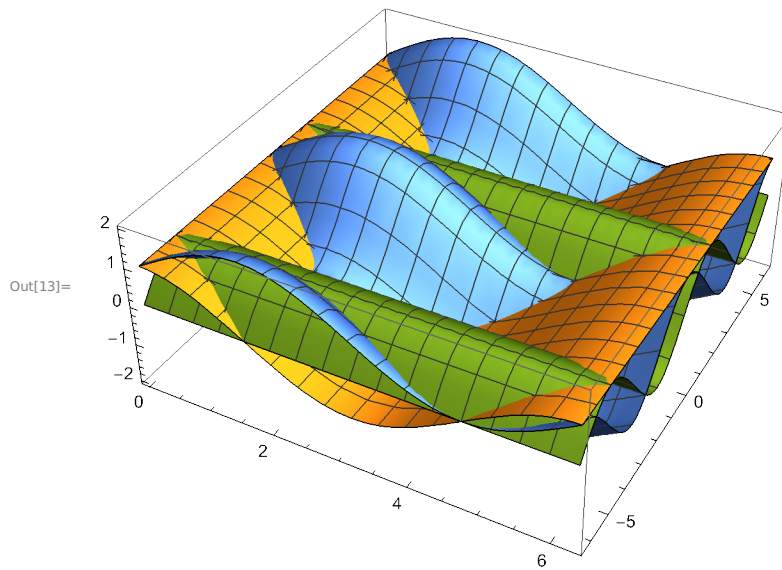
3. Construct a table of cubes.

In[14]:= `T = Table [{x, x ^ 3}, {x, -20, 20}]`

Out[14]= `{{-20, -8000}, {-19, -6859}, {-18, -5832}, {-17, -4913}, {-16, -4096},`
`{-15, -3375}, {-14, -2744}, {-13, -2197}, {-12, -1728}, {-11, -1331}, {-10, -1000},`
`{-9, -729}, {-8, -512}, {-7, -343}, {-6, -216}, {-5, -125}, {-4, -64}, {-3, -27},`
`{-2, -8}, {-1, -1}, {0, 0}, {1, 1}, {2, 8}, {3, 27}, {4, 64}, {5, 125}, {6, 216},`
`{7, 343}, {8, 512}, {9, 729}, {10, 1000}, {11, 1331}, {12, 1728}, {13, 2197},`
`{14, 2744}, {15, 3375}, {16, 4096}, {17, 4913}, {18, 5832}, {19, 6859}, {20, 8000}}`

In[15]:= `ListLinePlot [T]`

Out[15]=
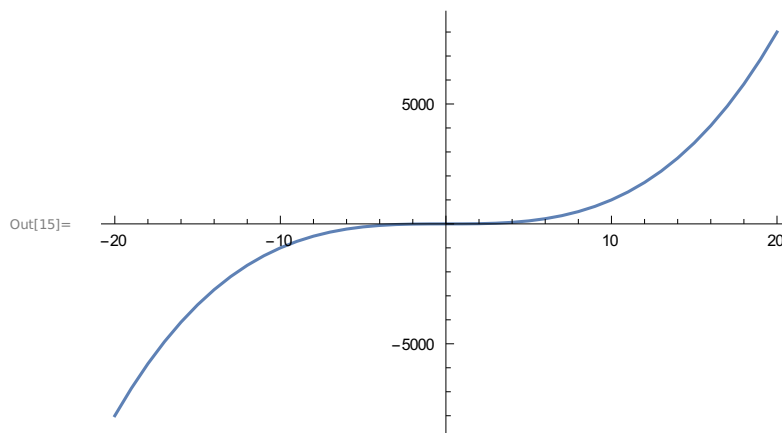
4. Define a function x^2+x^4 and find the values of the function at 2,5,10.

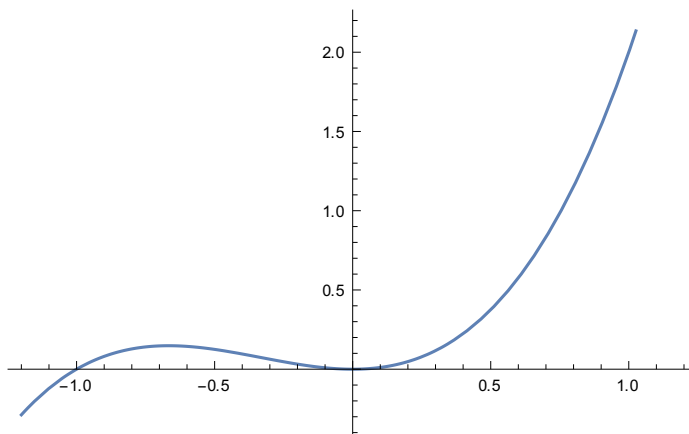In[16]:= **f[x_] := x ^ 2 + x ^ 4**
f[2]

Out[17]= 20

In[18]:= **f[5]**

Out[18]= 650

In[19]:= **f[10]**

Out[19]= 10 100

In[20]:= **Plot [{x ^ 2 + x ^ 3}, {x , −1.2 , 1.2}]**

Out[20]=

5. write a small code showing an error.

In[21]:= **Plot [x ^ 2 + x ^ 3]**

Plot : Plot called with 1 argument ; 2 arguments are expected .

Out[21]= $\text{Plot}\left[x^2 + x^3\right]$