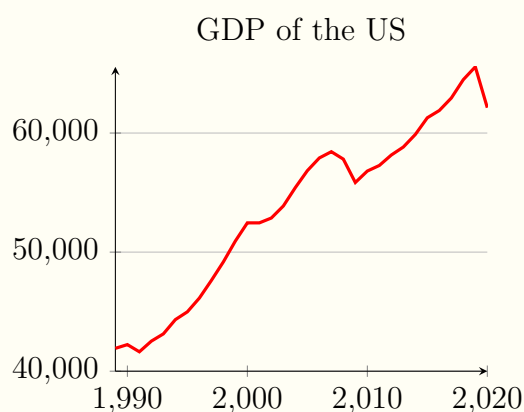


# PGFPlots 不同类型的统计图

ℒ<sub>T</sub>E<sub>X</sub> Sparkle · LogCreative

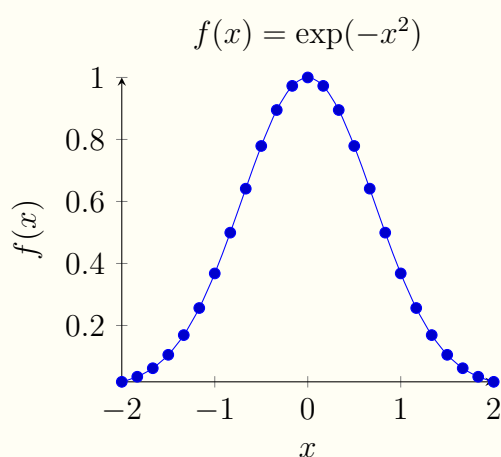
## 折线图

```
1 \begin{tikzpicture}
2   \begin{axis}[
3     axis y line={left},
4     axis x line={bottom},
5     title={GDP of the US},
6     ymin={40000},
7     ymajorgrids,
8     scaled y ticks=false,
9   ]
10  \addplot [red,very thick]
11  table[col sep=comma]
12  {./data/gdppc.csv};
13 \end{axis}
14 \end{tikzpicture}
```



## 折点图

```
1 \begin{tikzpicture}
2   \begin{axis}[
3     smooth,
4     axis x line={bottom},
5     axis y line={left},
6     xlabel={x},
7     ylabel={f(x)},
8     title={$f(x)=\exp(-x^2)$},
9   ]
10  \addplot+
11  [mark=*,domain=-2:2]
12  {exp(-x^2)};
13 \end{axis}
14 \end{tikzpicture}
```

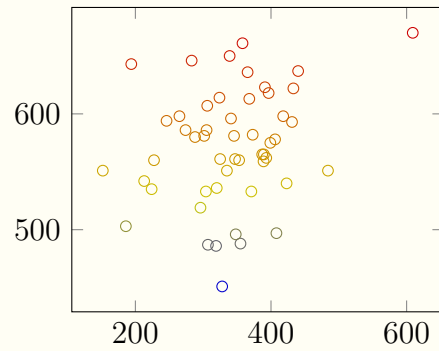


### 散点图

```

1 \begin{tikzpicture}
2   \begin{axis}[]
3     \addplot [
4       only marks,
5       mark=o,
6       scatter
7     ] table {./data/scatter.dat};
8   \end{axis}
9 \end{tikzpicture}

```

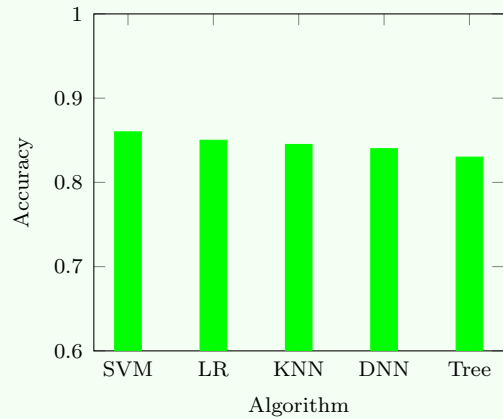


### 柱状图

```

1 \begin{tikzpicture}
2   \begin{axis}[
3     font={\scriptsize},
4     ymin={0.6},
5     ymax={1},
6     ylabel={Accuracy},
7     xlabel={Algorithm},
8     symbolic x
9     coords={SVM,LR,KNN,DNN,Tree},
10    width=7cm,
11  ]
12   \addplot [ybar, green,
13     fill=green] coordinates
14     {(SVM,0.86) (LR,0.85)
15      (KNN,0.845) (DNN,0.84)
16      (Tree,0.83)};
17   \end{axis}
18 \end{tikzpicture}

```

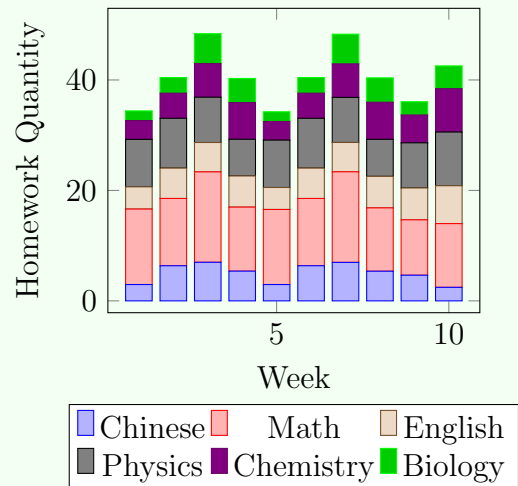


### 堆积柱形图

```

1 \pgfplotstableread [
2   col sep=comma
3   {./data/quantity.csv}
4   {\quantity}
5 \begin{tikzpicture}
6   \begin{axis}[
7     font={\normalsize},
8     ybar stacked,
9     xlabel={Week},
10    ylabel={Homework Quantity},
11    legend style={
12      at={(0.5,-0.3)},
13      anchor=north,
14      legend columns=3
15    },
16  ]
17  \foreach \y in {1,...,6}
18    \addplot+ table[x
19      index=0,y index=\y]
20      {\quantity};
21  \legend{Chinese, Math,
22    English, Physics, Chemistry,
23    Biology};
24  \end{axis}
25 \end{tikzpicture}

```

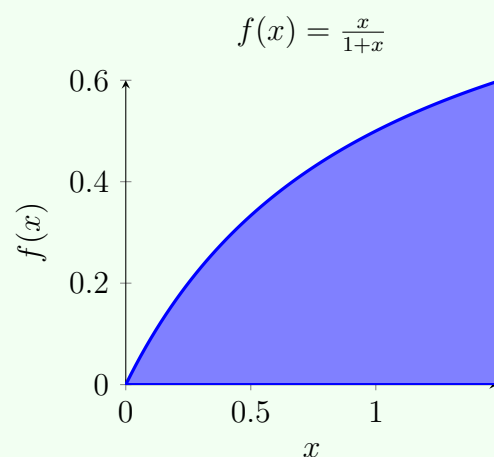


### 面积图

```

1 \begin{tikzpicture}
2   \begin{axis}[
3     title={$f(x) = \frac{x}{1+x}$},
4     axis x line={bottom},
5     axis y line={left},
6     xlabel={$x$},
7     ylabel={$f(x)$},
8     ymax=0.6,
9   ]
10  \addplot
11    [samples=200,domain=0:4,blue,very
12    thick,fill=blue!50] {x/(1+x)}
13  \closedcycle;
14  \end{axis}
15 \end{tikzpicture}

```

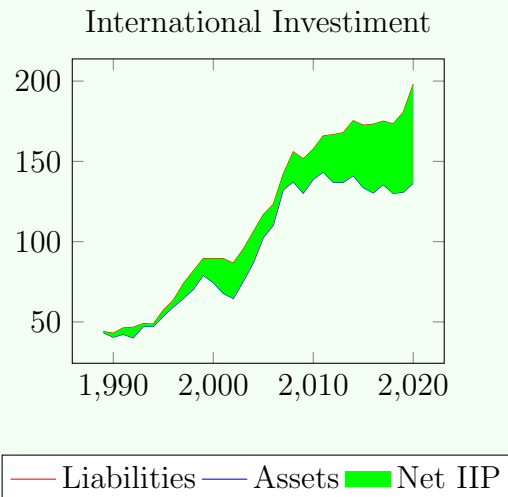


## 间隙面积图

```

1 \begin{tikzpicture}
2 \begin{axis}[fill between/on
   layer={main},legend style={
3     at={(0.5,-0.3)},
4     anchor=north,
5     legend columns=3
6 },
7 title={International Investment},
8 ]
9 \addplot [name path=F,red]
   table[col
   sep=comma,x=year,y=Liab]
   {./data/iip.csv};
10 \addplot [name path=G,blue]
   table[col
   sep=comma,x=year,y=Assets]
   {./data/iip.csv};
11 \addplot[color=green] fill
   between[of=F and G];
12 \legend{Liabilities, Assets, Net
   IIP};
13 \end{axis}
14 \end{tikzpicture}

```

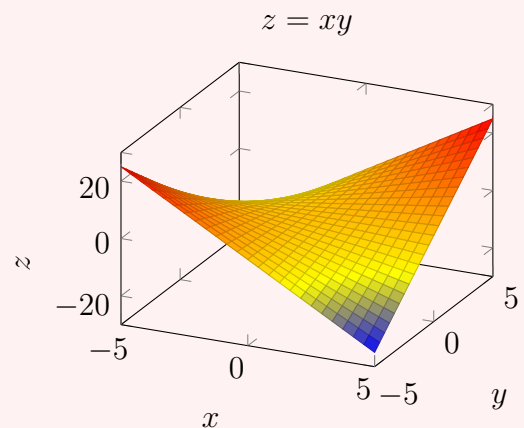


## 曲面图

```

1 \begin{tikzpicture}
2 \begin{axis}[title={ $z=xy$ },
3 xlabel={ $x$ },
4 ylabel={ $y$ },
5 zlabel={ $z$ },
6 ]
7 \addplot3 [surf] {x*y};
8 \end{axis}
9 \end{tikzpicture}

```

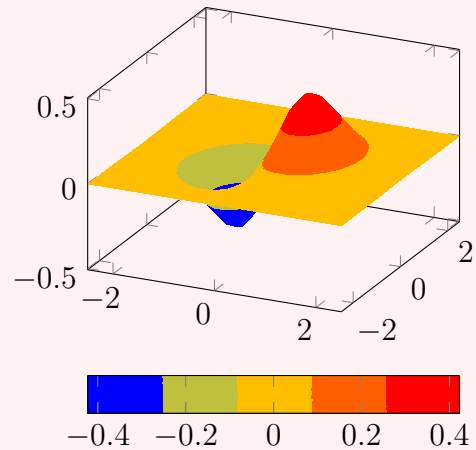


## 等高图

```

1 \begin{tikzpicture}
2   \begin{axis}[
3     contour filled,
4     colorbar horizontal,
5   ]
6     \addplot3 [domain=-2.5:2.5]
7     {exp(-x^2-y^2)*x};
8   \end{axis}
9 \end{tikzpicture}

```

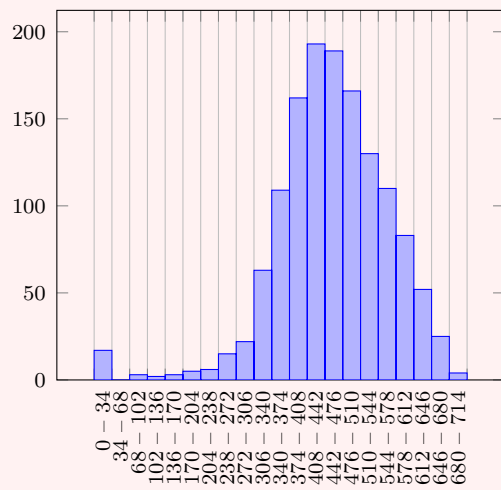


## 直方图

```

1 \begin{tikzpicture}
2   \begin{axis}[
3     ybar interval,
4     ymin=0,
5     xtick=data,
6     xticklabel interval
7     boundaries,
8     x tick label style={
9       rotate=90,
10      anchor=east,
11    },
12    tick align=inside,
13    width=7.5cm,
14    font=\scriptsize,
15  ]
16    \addplot coordinates {
17      (0,17) (34,0) (68,3) (102,2)
18      (136,3) (170,5) (204,6)
19      (238,15) (272,22) (306,63)
20      (340,109) (374,162) (408,193)
21      (442,189) (476,166) (510,130)
22      (544,110) (578,83) (612,52)
23      (646,25) (680,4) (714,4)
24    };
25  \end{axis}
26 \end{tikzpicture}

```



## 箱式图

```
1 \begin{tikzpicture}
2   \begin{axis}[
3     boxplot/draw direction=y,
4   ]
5   \addplot+ [boxplot prepared={
6     lower whisker=2.5, lower
7     quartile=4,
8     median=8.5, upper quartile=12,
9     upper whisker=15},
10    ] coordinates {};
11   \addplot+ [boxplot prepared={
12     lower whisker=2.5, lower
13     quartile=4,
14     median=8.5, upper quartile=12,
15     upper whisker=15},
16    ] coordinates {};
```

