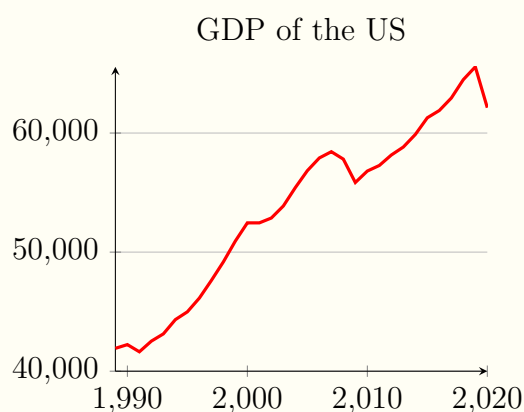# PGFPlots 不同类型的统计图

LaTeX 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]
       table[col sep=comma]
       {./data/gdppc.csv};
11     \end{axis}
12 \end{tikzpicture}
```

GDP of the US

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+
       [mark=*,domain=-2:2]
       {exp(-x^2)};
11     \end{axis}
12 \end{tikzpicture}
```

$f(x) = \exp(-x^2)$
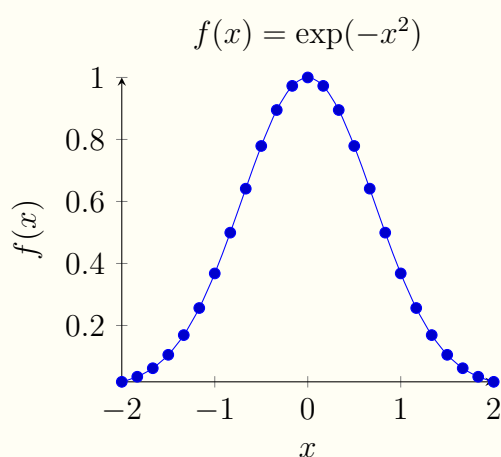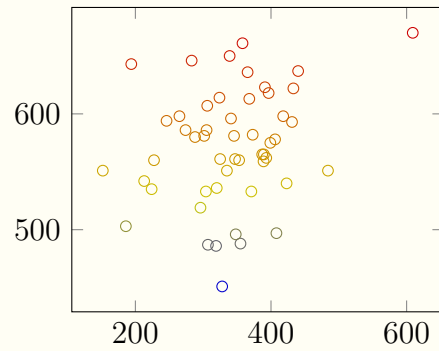
散点图

```
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}
```
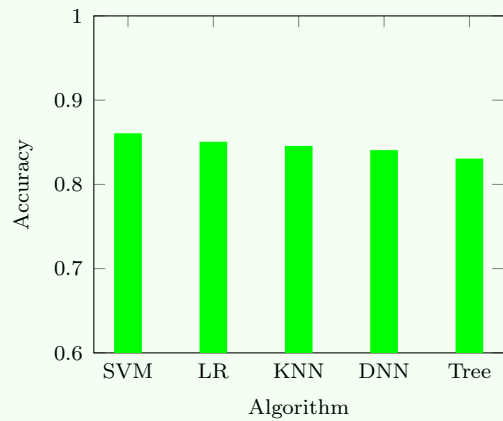
柱状图

```
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
   coords={SVM,LR,KNN,DNN,Tree},
9      width=7cm,
10     ]
11      \addplot [ybar, green,
   fill=green] coordinates
   {(SVM,0.86) (LR,0.85)
   (KNN,0.845) (DNN,0.84)
   (Tree,0.83)};
12     \end{axis}
13 \end{tikzpicture}
```
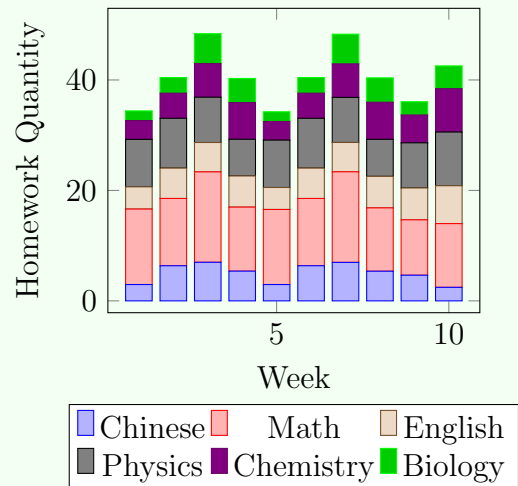
堆积柱形图

```
\pgfplotstableread [
    col sep=comma]
    {./data/quantity.csv}
    {\quantity}
\begin{tikzpicture}
    \begin{axis}[
    font={\normalsize},
    ybar stacked,
    xlabel={Week},
    ylabel={Homework Quantity},
    legend style={
        at={(0.5,-0.3)},
        anchor=north,
        legend columns=3
    },
    ]
    \foreach \y in {1,...,6}
        \addplot+ table[x
    index=0,y index=\y]
    {\quantity};
    \legend{Chinese, Math,
    English, Physics, Chemistry,
    Biology};
    \end{axis}
\end{tikzpicture}
```
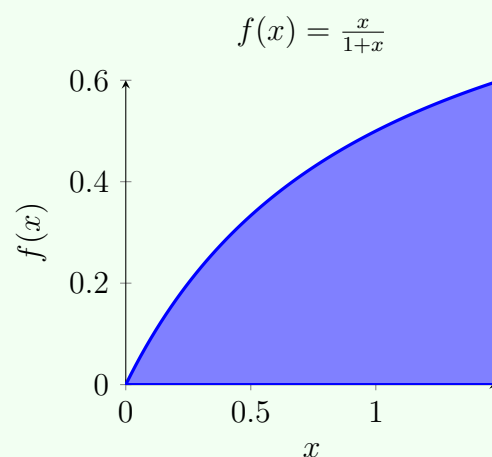
面积图

```
\begin{tikzpicture}
    \begin{axis}[
    title={$f(x) =
    \frac{x}{1+x}$},
    axis x line={bottom},
    axis y line={left},
    xlabel={$x$},
    ylabel={$f(x)$},
    ymax=0.6,
    ]
     \addplot
    [samples=200,domain=0:4,blue,very
    thick,fill=blue!50] {x/(1+x)}
    \closedcycle;
    \end{axis}
\end{tikzpicture}
```
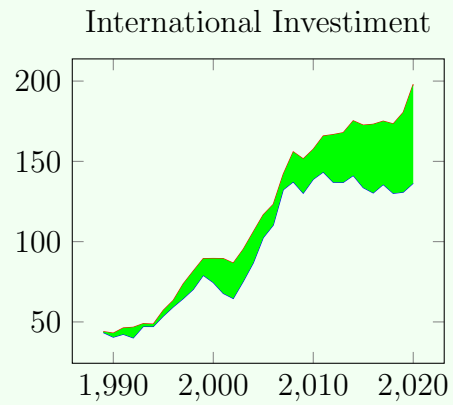
间隙面积图

```
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 Investiment},
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}
```
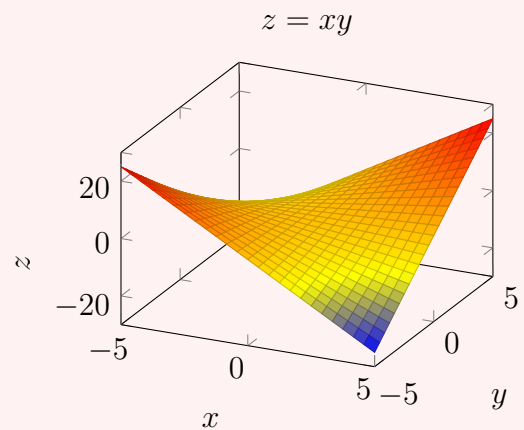

曲面图

```
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}
```
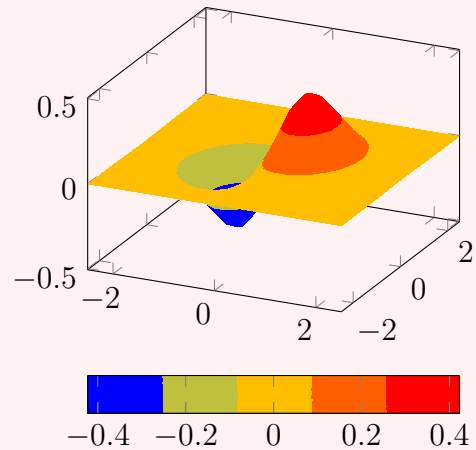
等高图

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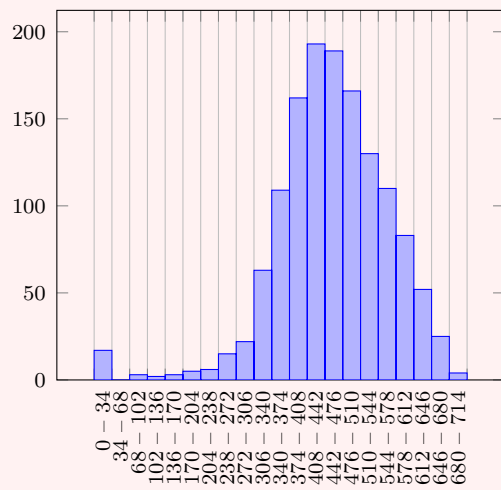

直方图

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

箱式图

```
\begin{tikzpicture}
    \begin{axis}[
    boxplot/draw direction=y,
    ]
    \addplot+ [boxplot prepared={
    lower whisker=2.5, lower
    quartile=4,
    median=8.5, upper quartile=12,
    upper whisker=15},
    ] coordinates {};
    \addplot+ [boxplot prepared={
    lower whisker=2.5, lower
    quartile=4,
    median=8.5, upper quartile=12,
    upper whisker=15},
    ] coordinates {};
    \end{axis}
\end{tikzpicture}
```