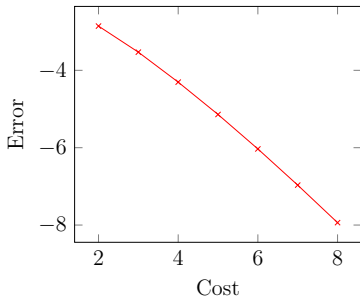# pgfplots 宏包

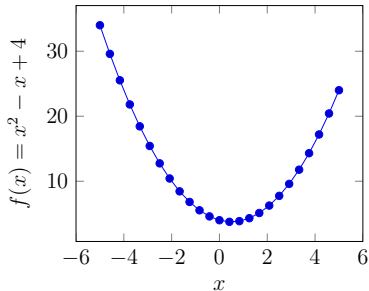pgfplots 以 pgfplots 和 tikz 宏包为基础，提供简单的二维和三维绘图界面。

基本格式：

```
\begin{tikzpicture}[options]
\begin{axis}[options]
  ...
\addplot
  ...
  (主要部分);
\end{axis}
\end{tikzpicture}
```
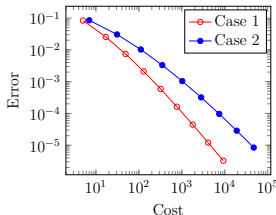
```
\begin{tikzpicture}[scale=0.7]
\begin{axis}[xlabel=Cost,
ylabel=Error]
\addplot[color=red,mark=x]
coordinates{
(2,-2.8559703)(3,-3.5301677)
(4,-4.3050655)(5,-5.1413136)
(6,-6.0322865)(7,-6.9675052)
(8,-7.9377747)};
\end{axis}
\end{tikzpicture}
```
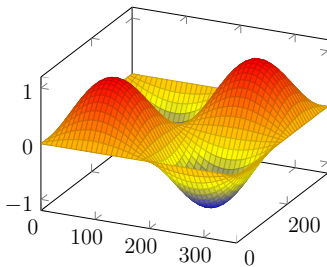
```
\begin{tikzpicture}[scale=0.7]
\begin{axis}[
xlabel=$x$,
ylabel={$f(x) = x^2 - x +4$}
]
\addplot {x^2 - x +4};
\end{axis}
\end{tikzpicture}
```
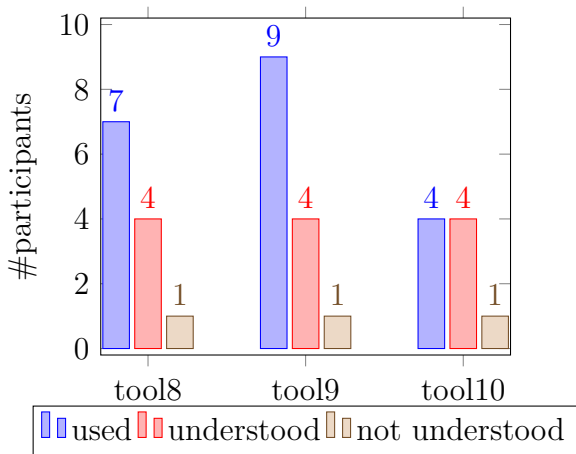
```
\begin{tikzpicture}[scale=0.5]
\begin{loglogaxis}[
xlabel=Cost,
ylabel=Error]
\addplot[color=red,mark=o]
coordinates {
(5,      8.311e-02)(17,    2.546e-02)
(49,    7.407e-03)(129,   2.101e-03)
(321,   5.873e-04)(769,   1.622e-04)
(1793,  4.442e-05)(4097,  1.207e-05)
(9217,  3.261e-06)};
\addplot[color=blue,mark=*]
table[x=Cost,y=Error]{L32-1.table};
\legend{Case 1,Case 2}
\end{loglogaxis}
```

```
\begin{tikzpicture}[scale=0.7]
\begin{axis}
\addplot3[surf,domain=0:360,
  samples=40]
{sin(x)*sin(y)};
\end{axis}
\end{tikzpicture}
```

```
\begin{tikzpicture}
\begin{axis}[
```

```
ybar, enlargelimits=0.15,
legend style={at={(0.5,-0.15)},
anchor=north,legend columns=-1},
ylabel={\#participants},
symbolic x coords={tool8,tool9,tool10},
xtick=data, nodes near coords,
nodes near coords align={vertical},
]
\addplot coordinates {(tool8,7) (tool9,9) (tool10,4)};
\addplot coordinates {(tool8,4) (tool9,4) (tool10,4)};
\addplot coordinates {(tool8,1) (tool9,1) (tool10,1)};
\legend{used,understood,not understood}
\end{axis}
\end{tikzpicture}
```

```
\begin{tikzpicture}[scale=0.7]
\begin{axis}[ybar stacked]
\addplot coordinates
{(0,1) (1,1) (2,3)
(3,2) (4,1.5)};
\addplot coordinates
{(0,1) (1,1) (2,3)
 (3,2) (4,1.5)};
\addplot coordinates
{(0,1) (1,1) (2,3)
(3,2) (4,1.5)};
\end{axis}
\end{tikzpicture}
```