jupyter 回測模組(backtesting)測試 Last Checkpoint: 02/23/2022 (autosaved)

Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

Run Code

In [1]:

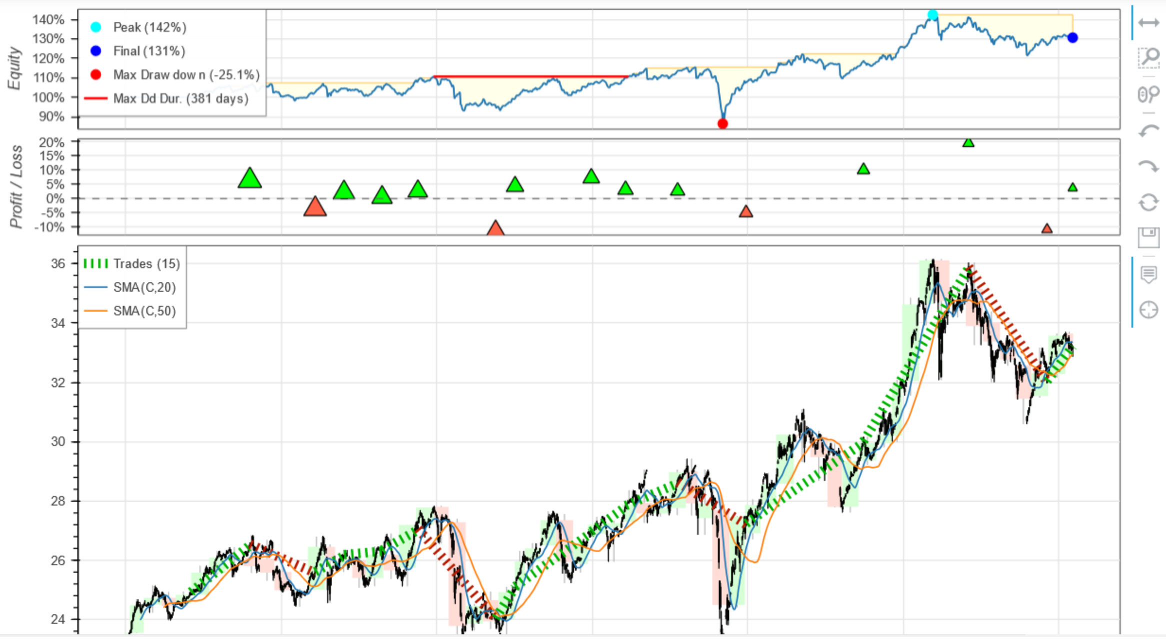
```python
import pandas as pd
from backtesting import Backtest, Strategy
from backtesting.lib import crossover
from backtesting.test import SMA

#直接顯示圖片
%matplotlib inline

#載入0056過去五年的每日收盤數據
data = pd.read_csv(r'C:\Users\npc94\OneDrive\桌面\0056.TW.csv',index_col=0,parse_dates=True)

#定義均線策略20天短均線以及50天均線
class SmaCross(Strategy):
    n1 = 20
    n2 = 50

    def init(self):
        close = self.data['Close']
        self.sma1 = self.I(SMA, close, self.n1)
        self.sma2 = self.I(SMA, close, self.n2)

#均線策略20天短均線超過50天均線即作多，不做空
    def next(self):
        if crossover(self.sma1, self.sma2):
            self.buy()
        #elif crossover(self.sma2, self.sma1):
           # self.sell()
```

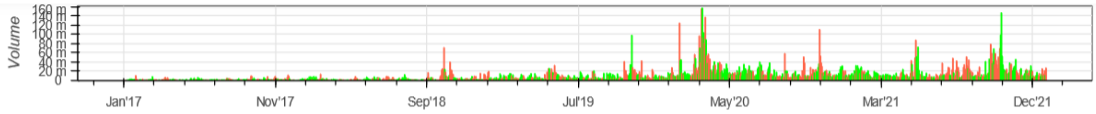
```python
#設定初始資金為10萬，交易手續費為0.1425%
bt = Backtest(data, SmaCross,
              cash=100000, commission=0.001425,
              exclusive_orders=True)

#將交易結果繪成圖表
output = bt.run()
bt.plot()

#統計交易的數據
stats = bt.run()
stats
```

```
C:\Users\npc94\anaconda3\lib\site-packages\backtesting\_plotting.py:45: UserWarning: Jupyter Notebook detected. Setting Bokeh output to note
book. This may not work in Jupyter clients without JavaScript support (e.g. PyCharm, Spyder IDE). Reset with `backtesting.set_bokeh_output(n
otebook=False)`.
  warnings.warn('Jupyter Notebook detected. '
```

BokehJS 2.4.2 successfully loaded.

```
BokehDeprecationWarning: HSL() was deprecated in Bokeh 2.3.1 and will be removed, use RGB() or named colors instead.
BokehDeprecationWarning: HSL() was deprecated in Bokeh 2.3.1 and will be removed, use RGB() or named colors instead.
BokehDeprecationWarning: HSL() was deprecated in Bokeh 2.3.1 and will be removed, use RGB() or named colors instead.
BokehDeprecationWarning: HSL() was deprecated in Bokeh 2.3.1 and will be removed, use RGB() or named colors instead.
```






```
Out[1]: Start                     2017-01-17 00:00:00
        End                       2022-01-14 00:00:00
        Duration                   1823 days 00:00:00
        Exposure Time [%]                   93.109106
        Equity Final [$]                130637.619152
        Equity Peak [$]                 142446.958128
        Return [%]                          30.637619
        Buy & Hold Return [%]               41.424917
        Return (Ann.) [%]                    5.680394
        Volatility (Ann.) [%]               14.162531
        Sharpe Ratio                         0.401086
        Sortino Ratio                        0.543774
        Calmar Ratio                         0.225908
        Max. Drawdown [%]                  -25.144677
        Avg. Drawdown [%]                   -3.061426
        Max. Drawdown Duration      381 days 00:00:00
        Avg. Drawdown Duration       48 days 00:00:00
        # Trades                                   15
        Win Rate [%]                        73.333333
        Best Trade [%]                      19.449402
        Worst Trade [%]                    -11.266342
        Avg. Trade [%]                       1.798151
        Max. Trade Duration         218 days 00:00:00
        Avg. Trade Duration         113 days 00:00:00
        Profit Factor                        2.011711
```