sortino(DF,rf):

 "function to calculate sortino ratio ; rf is the risk free rate"

 df = DF.copy()

 df["daily\_ret"] = DF["Adj Close"].pct\_change()

 df["neg\_ret"] = np.where(df["daily\_ret"]<0,df["daily\_ret"],0)

 neg\_vol = df["neg\_ret"].std() \* np.sqrt(252)

 sr = (CAGR(df) - rf)/neg\_vol

 return sr

def calmar(DF):sortino(DF,rf):

 "function to calculate sortino ratio ; rf is the risk free rate"

 df = DF.copy()

 df["daily\_ret"] = DF["Adj Close"].pct\_change()

 df["neg\_ret"] = np.where(df["daily\_ret"]<0,df["daily\_ret"],0)

 neg\_vol = df["neg\_ret"].std() \* np.sqrt(252)

 sr = (CAGR(df) - rf)/neg\_vol

 return sr

def calmar(DF):