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Forecast - Range {Nov 2021 / Nov 2022}

Forecast con Modelo Autorregresivo integrado de media móvil

Proyección: 360 Días

In[85]:= LocalTime [Buenos Aires CITY]

Out[85]:= Thu 18 Nov 2021 10:03:59 GMT-3

I. Información de los títulos

```
In[60]:= sts={"TSLA","NVDA","AMAT","LRCX","PYPL","GM","DE","AAPL"};
properties1={"Symbol","Name","Price","Volume"};dat=Table[FinancialData[s,p],
{s,sts},{p,properties1}];
ststable=Style[TableForm[dat,TableHeadings->{None,Style[#,Bold]&/@{"Ticker Symbol",
"Name","Current Price","Volume"}},FontFamily->"Verdana",14]
```

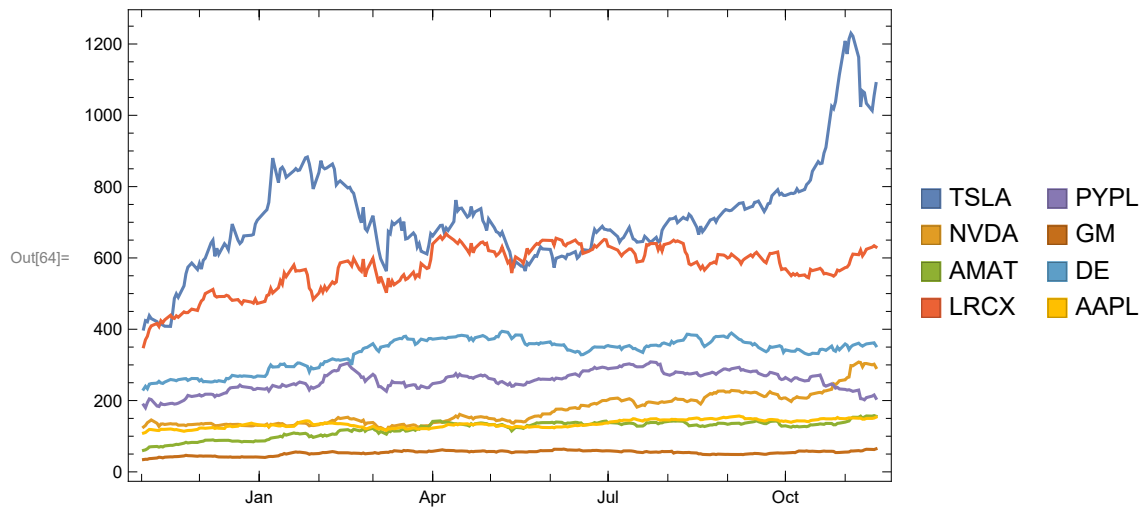
Ticker Symbol	Name	Current Price	Volume
NASDAQ:TSLA	Tesla Motors	\$1 089.01	31 001 497 shares
NASDAQ:NVDA	NVIDIA	\$292.61	37 515 246 shares
NASDAQ:AMAT	Applied Materials	\$155.98	5 548 375 shares
NASDAQ:LRCX	Lam Research	\$630.63	892 852 shares
NASDAQ:PYPL	PayPal Holdings Inc	\$206.27	22 943 742 shares
NYSE:GM	General Motors	\$64.61	29 767 766 shares
NYSE:DE	Deere	\$353.52	1 643 570 shares
NASDAQ:AAPL	Apple	\$153.49	88 046 172 shares

II. Comportamiento histórico

Evaluación del comportamiento histórico de los títulos

```
In[25]:= sp500const={"TSLA","NVDA","AMAT","LRCX","PYPL","GM","DE","AAPL"};
```

```
In[63]:= sp500ts=TimeSeries[FinancialData[#, "Close", {{2020, 11, .1}, {2021, 11, 17}}] &/@ sp500const;  
DateListPlot[sp500ts, PlotLegends->SwatchLegend[sp500const, LegendLayout->{"Column", 2}]]
```

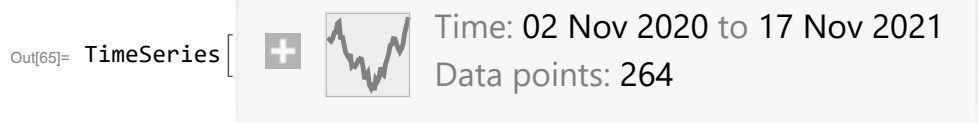


III. Simulación de diversificación del portfolio

En este apartado haremos una simulación en la cual se dividirán los recursos de forma equiponderada.

```
In[37]:= alloc={0.1250,0.1250,0.1250,0.1250,0.1250,0.1250,0.1250,0.1250};
```

```
In[65]:= portfolio=TimeSeriesThread[alloc.#&,sp500ts]
```



IV. Visualización de datos históricos agrupados

Utilice este grafico como guía del comportamiento histórico acumulado de los títulos

In[68]:=

```
pc=PieChart[alloc,ChartLabels→Placed[Style[#,Small,Italic,FontFamily→"Helvetica"]&/@sp500const,"
ColorFunction→"DarkBands",SectorOrigin→{{ $\pi/4$ ,"Clockwise"},0},ChartStyle→Opacity[.6],
ImageSize→250,ImagePadding→{{150,10},{10,10}}];
DateListPlot[portfolio,Filling→Axis,Epilog→Inset[pc,{{2020,1,1},600}],ImageSize→"Large",PlotTheme
PlotLabel→Style["Comportamiento histórico acumulado, 2020 - 2021",14,Blue]]
```



V. Recolección de datos

En este apartado ya estamos listos para el inicio del cruzamiento de información histórica de series de tiempo

In[45]:=

```
adjPortfolio=TimeSeries[portfolio,TemporalRegularity→True]
```

Out[45]=

TimeSeries [  Time: 02 Nov 2020 to 17 Nov 2021
Data points: 264]

In[46]:=

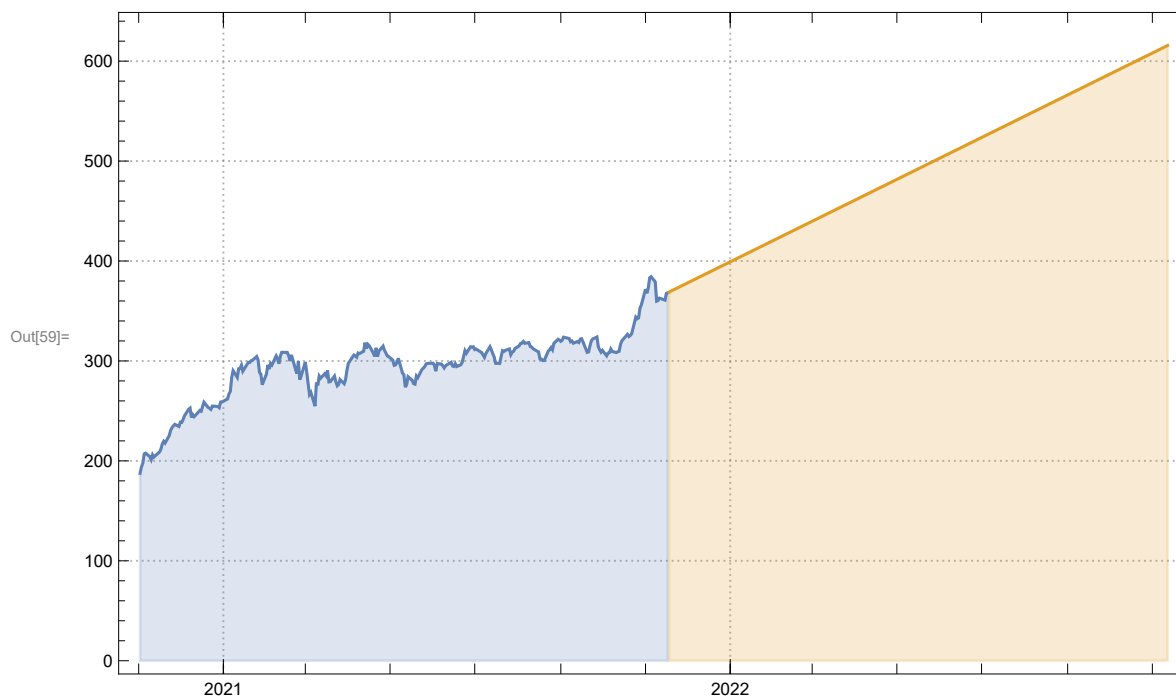
```
eproc=TimeSeriesModelFit[adjPortfolio]
```

Out[46]=

TimeSeriesModel [  Family: ARIMA
Order: {0, 1, 0}]

VI. Resultados Obtenidos

```
In[58]:= forecast=TimeSeriesForecast[eproc,{360}];  
DateListPlot[{adjPortfolio,forecast},Filling->Axis,PlotTheme->"Detailed",  
ImageSize->"Large",PlotLabel->Style["Forecasting 4to. Trimestre 2021",14,White]]
```



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