Creado por:

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PLOTNINE

Ggplot es una librería muy importante en "R" (lenguaje de programación).

En el caso de Python, lo que se va pedir es que se aprenda de forma autodidacta a hacer las gráficas para el dataset Iris con "plotnine".

Los colores no necestan coincidir, pero la gráfica debería de ser la misma.(pétalo, sépalo).

In [1]:
```
# Primero realizamos la instalación de la libreria
# pip install plotnine
# Es necesario tener instalada la version de matplotlib 3.5.0, ya que con la última versión da problemas!!!
```

In [2]:
```
import pandas as pd
from plotnine import *
```

In [3]:
```
df = pd.read_csv("Iris.csv")
df
```

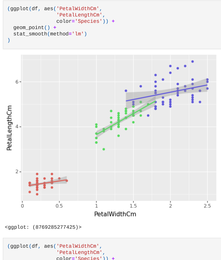
Out[3]:

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	1	5.1	3.5	1.4	0.2	Iris-setosa
1	2	4.9	3.0	1.4	0.2	Iris-setosa
2	3	4.7	3.2	1.3	0.2	Iris-setosa
3	4	4.6	3.1	1.5	0.2	Iris-setosa
4	5	5.0	3.6	1.4	0.2	Iris-setosa
...	...	...	...	...	...	...
145	146	6.7	3.0	5.2	2.3	Iris-virginica
146	147	6.3	2.5	5.0	1.9	Iris-virginica
147	148	6.5	3.0	5.2	2.0	Iris-virginica
148	149	6.2	3.4	5.4	2.3	Iris-virginica
149	150	5.9	3.0	5.1	1.8	Iris-virginica

150 rows × 6 columns

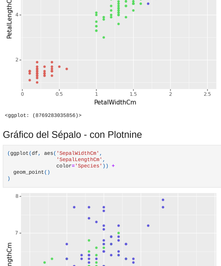
Gráfico del Pétalo - con Plotnine

In [4]:
```
# Create a simple scatter plot.
# Note, the parens wrapping the statement allow you to use `+` at the end of the line
# without escaping with a backslash.
(ggplot(df, aes('PetalWidthCm',
                'PetalLengthCm')) +
 geom_point())
```



Out[4]:
```
<ggplot: (8769285278341)>
```

In [5]:
```
(ggplot(df, aes('PetalWidthCm',
                'PetalLengthCm',
                color='Species')) +
 geom_point() +
 stat_smooth(method='lm')
)
```



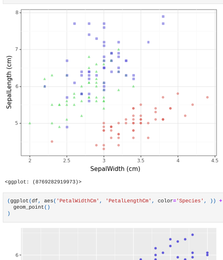
Out[5]:
```
<ggplot: (8769285277425)>
```

In [6]:
```
(ggplot(df, aes('PetalWidthCm',
                'PetalLengthCm',
                color='Species')) +
 geom_point()
)
```

Out[6]:
```
<ggplot: (8769283035856)>
```

Gráfico del Sépalo - con Plotnine

In [7]:
```
(ggplot(df, aes('SepalWidthCm',
                'SepalLengthCm',
                color='Species')) +
 geom_point()
)
```



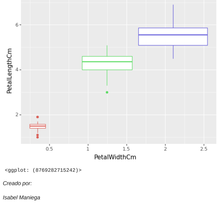
Out[7]:
```
<ggplot: (8769282988770)>
```

Más características del gráfico

In [8]:
```
(ggplot(data=df,
        mapping=aes(x='SepalWidthCm',
                    y='SepalLengthCm',
                    color='Species'))
 + geom_point(alpha=0.5)
 + xlab("SepalWidth (cm)")
 + ylab("SepalLength (cm)")
 + theme_bw()
)
```

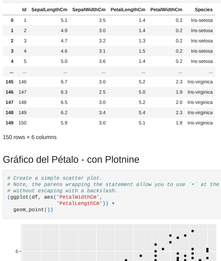
Out[8]:
```
<ggplot: (8769282888810)>
```

In [9]:
```
(ggplot(data=df,
        mapping=aes(x='SepalWidthCm',
                    y='SepalLengthCm',
                    color='Species',
                    shape='Species'))
 + geom_point(alpha=0.5)
 + xlab("SepalWidth (cm)")
 + ylab("SepalLength (cm)")
 + theme_bw()
)
```



Out[9]:
```
<ggplot: (8769282919973)>
```

In [10]:
```
(ggplot(df, aes('PetalWidthCm', 'PetalLengthCm', color='Species', )) +
 geom_point()
)
```



Out[10]:
```
<ggplot: (8769282865908)>
```

boxplot

In [11]:
```
(ggplot(data=df,
        mapping=aes(x='SepalWidthCm',
                    y='SepalLengthCm',
                    color="Species"))
 + geom_boxplot()
)
```


Out[11]:
```
<ggplot: (8769282780380)>
```

In [12]:
```
(ggplot(data=df,
        mapping=aes(x='PetalWidthCm',
                    y='PetalLengthCm',
                    color="Species"))
 + geom_boxplot()
)
```


Out[12]:
```
<ggplot: (8769282715242)>
```

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