MonteCarlo_JersonAndino

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0.1 Simulacion de Monte Carlo

1 Jerson Andino

[ ]:
```
import pandas as pd
import numpy as np
import seaborn as sns
```

[ ]:
```
sns.set_style('whitegrid')
```

[ ]:
```
# Definir las variables de porcentajes
avg = 1
std_dev = .1
num_reps = 500
num_simulations = 1000
```

[ ]:
```
# Generar datos

pct_to_target = np.random.normal(avg, std_dev, num_reps).round(2)
```

[ ]:
```
pct_to_target[0:20]
```

[ ]:
```
array([1.02, 1.05, 1.03, 1.07, 0.89, 1.09, 1.02, 0.91, 0.9 , 0.98, 1.05,
       0.92, 1.06, 0.91, 0.92, 0.9 , 1.  , 1.02, 1.03, 0.98])
```

[ ]:
```
# Mas datos
sales_target_values = [75_000, 100_000, 200_000, 300_000 ,400_000, 500_000]
sales_target_prob = [.3, .3, .2 , .1, .05, .05]
sales_target = np.random.choice(sales_target_values, num_reps,␣
 ↪p=sales_target_prob)
```

[ ]:
```
sales_target[0:3]
```

[ ]:
```
array([300000,  75000, 100000])
```

[ ]:
```
df = pd.DataFrame(index=range(num_reps), data={'PCT_To_Target': pct_to_target,␣
 ↪'SALES_Target': sales_target})
df.head()
```

[ ]:

	PCT_To_Target	SALES_Target
0	1.02	300000
1	1.05	75000
2	1.03	100000
3	1.07	300000
4	0.89	75000

[ ]:
```
df['PCT_To_Target'].plot(kind='hist', title='Distribucion Historica')
```

[ ]: <Axes: title={'center': 'Distribucion Historica'}, ylabel='Frequency'>