

```
In [1]: import pandas as pd
import numpy as np
import os
for dirname,_,filenames in os.walk('D:\Financial data'):
    for filename in filenames:
        print(os.path.join(dirname,filename))
```

D:\Financial data\Finance_data.csv

```
In [2]: import seaborn as sns
import matplotlib.pyplot as plt
```

```
In [3]: sns.set_style('darkgrid')
```

```
In [4]: df=pd.read_csv("D:\Financial data\Finance_data.csv")
```

```
In [5]: df
```

Out[5]:

	gender	age	Investment_Avenues	Mutual_Funds	Equity_Market	Debentures	Government_Bonds	Fixed_Deposits	PPF	Gold	...	Dur
0	Female	34	Yes	1	2	5	3	7	6	4	...	1-3
1	Female	23	Yes	4	3	2	1	5	6	7	...	tl
2	Male	30	Yes	3	6	4	2	5	1	7	...	3-5
3	Male	22	Yes	2	1	3	7	6	4	5	...	Less 1
4	Female	24	No	2	1	3	6	4	5	7	...	Less 1
5	Female	24	No	7	5	4	6	3	1	2	...	1-3
6	Female	27	Yes	3	6	4	2	5	1	7	...	3-5
7	Male	21	Yes	2	3	7	4	6	1	5	...	3-5
8	Male	35	Yes	2	4	7	5	3	1	6	...	1-3
9	Male	31	Yes	1	3	7	4	5	2	6	...	3-5
10	Female	35	Yes	2	4	7	5	3	1	6	...	3-5
11	Male	29	Yes	2	5	7	6	3	1	4	...	1-3

	gender	age	Investment_Avenues	Mutual_Funds	Equity_Market	Debentures	Government_Bonds	Fixed_Deposits	PPF	Gold	...	Dur
12	Female	21	No	1	2	3	4	5	6	7	...	1-3
13	Female	28	Yes	2	3	7	4	5	1	6	...	1-3
14	Female	25	Yes	2	3	7	5	4	1	6	...	1-3
15	Male	27	Yes	2	3	7	5	4	1	6	...	1-3
16	Female	28	Yes	3	2	7	5	4	1	6	...	1-3
17	Male	27	Yes	3	2	7	4	5	1	6	...	1-3
18	Male	29	Yes	3	2	7	4	5	1	6	...	1-3
19	Male	26	Yes	3	4	6	5	1	2	7	...	3-5
20	Male	29	Yes	2	4	7	5	3	1	6	...	3-5
21	Female	24	Yes	2	4	5	6	3	1	7	...	3-5
22	Male	27	Yes	3	4	6	5	2	1	7	...	3-5
23	Male	25	Yes	2	4	6	5	3	1	7	...	3-5

	gender	age	Investment_Avenues	Mutual_Funds	Equity_Market	Debentures	Government_Bonds	Fixed_Deposits	PPF	Gold	...	Dur
24	Female	26	Yes	2	3	7	5	4	1	6	...	3-5
25	Female	32	Yes	3	4	7	5	1	2	6	...	3-5
26	Male	26	Yes	3	4	6	5	1	2	7	...	3-5
27	Male	31	Yes	2	3	7	6	4	1	5	...	1-3
28	Male	29	Yes	2	3	6	5	1	4	7	...	1-3
29	Female	34	Yes	5	4	3	2	7	1	6	...	3-5
30	Male	27	Yes	4	5	1	2	7	3	6	...	1-3
31	Female	31	Yes	2	4	7	6	3	1	5	...	3-5
32	Male	27	Yes	2	4	7	5	1	3	6	...	3-5
33	Male	26	Yes	2	3	6	4	1	5	7	...	1-3
34	Male	27	Yes	2	3	6	5	4	1	7	...	1-3
35	Male	30	Yes	1	4	6	5	3	2	7	...	3-5
36	Male	30	Yes	2	4	7	5	1	3	6	...	1-3

	gender	age	Investment_Avenues	Mutual_Funds	Equity_Market	Debentures	Government_Bonds	Fixed_Deposits	PPF	Gold	...	Duration
37	Male	25	Yes	5	4	7	6	1	2	3	...	3-5
38	Male	31	Yes	2	4	7	5	3	1	6	...	1-3
39	Male	29	Yes	4	3	5	7	2	1	6	...	3-5
40	Male	34	Yes	3	5	6	4	3	2	4	...	3-5

In [6]: `df.head(5)`

Out[6]:

	gender	age	Investment_Avenues	Mutual_Funds	Equity_Market	Debentures	Government_Bonds	Fixed_Deposits	PPF	Gold	...	Durat
0	Female	34	Yes	1	2	5	3	7	6	4	...	1-3 y
1	Female	23	Yes	4	3	2	1	5	6	7	...	M th y
2	Male	30	Yes	3	6	4	2	5	1	7	...	3-5 y
3	Male	22	Yes	2	1	3	7	6	4	5	...	Less t 1
4	Female	24	No	2	1	3	6	4	5	7	...	Less t 1

5 rows × 24 columns



In [7]: `df.isna().sum()`

```
Out[7]: gender      0
        age         0
        Investment_Avenues  0
        Mutual_Funds  0
        Equity_Market  0
        Debentures    0
        Government_Bonds  0
        Fixed_Deposits  0
        PPF           0
        Gold          0
        Stock_Market  0
        Factor        0
        Objective     0
        Purpose       0
        Duration      0
        Invest_Monitor 0
        Expect        0
        Avenue        0
        What are your savings objectives? 0
        Reason_Equity 0
        Reason_Mutual 0
        Reason_Bonds  0
        Reason_FD     0
        Source        0
        dtype: int64
```

```
In [8]: df.head()
```

Out[8]:

	gender	age	Investment_Avenues	Mutual_Funds	Equity_Market	Debentures	Government_Bonds	Fixed_Deposits	PPF	Gold	...	Durati
0	Female	34	Yes	1	2	5	3	7	6	4	...	1-3 y
1	Female	23	Yes	4	3	2	1	5	6	7	...	M th y
2	Male	30	Yes	3	6	4	2	5	1	7	...	3-5 y
3	Male	22	Yes	2	1	3	7	6	4	5	...	Less t 1
4	Female	24	No	2	1	3	6	4	5	7	...	Less t 1

5 rows × 24 columns



```
In [9]: df.drop(['Mutual_Funds', 'Equity_Market', 'Debentures', 'Government_Bonds', 'Fixed_Deposits', 'PPF', 'Gold'], axis = 1, inplace=True)
```

```
In [10]: df
```


Out[10]:

	gender	age	Investment_Avenues	Stock_Market	Factor	Objective	Purpose	Duration	Invest_Monitor	Expect	Avenue	With_saving objective
0	Female	34	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	1-3 years	Monthly	20%-30%	Mutual Fund	Retirement
1	Female	23	Yes	No	Locking Period	Capital Appreciation	Wealth Creation	More than 5 years	Weekly	20%-30%	Mutual Fund	Health Insurance
2	Male	30	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	3-5 years	Daily	20%-30%	Equity	Retirement
3	Male	22	Yes	Yes	Returns	Income	Wealth Creation	Less than 1 year	Daily	10%-20%	Equity	Retirement
4	Female	24	No	No	Returns	Income	Wealth Creation	Less than 1 year	Daily	20%-30%	Equity	Retirement
5	Female	24	No	No	Risk	Capital Appreciation	Wealth Creation	1-3 years	Daily	30%-40%	Mutual Fund	Retirement
6	Female	27	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	3-5 years	Monthly	20%-30%	Equity	Retirement
7	Male	21	Yes	Yes	Risk	Capital Appreciation	Wealth Creation	3-5 years	Monthly	20%-30%	Mutual Fund	Retirement
8	Male	35	Yes	Yes	Returns	Growth	Savings for Future	1-3 years	Weekly	20%-30%	Equity	Retirement
9	Male	31	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	3-5 years	Monthly	30%-40%	Fixed Deposits	Retirement
10	Female	35	Yes	Yes	Risk	Growth	Savings for Future	3-5 years	Monthly	20%-30%	Mutual Fund	Retirement

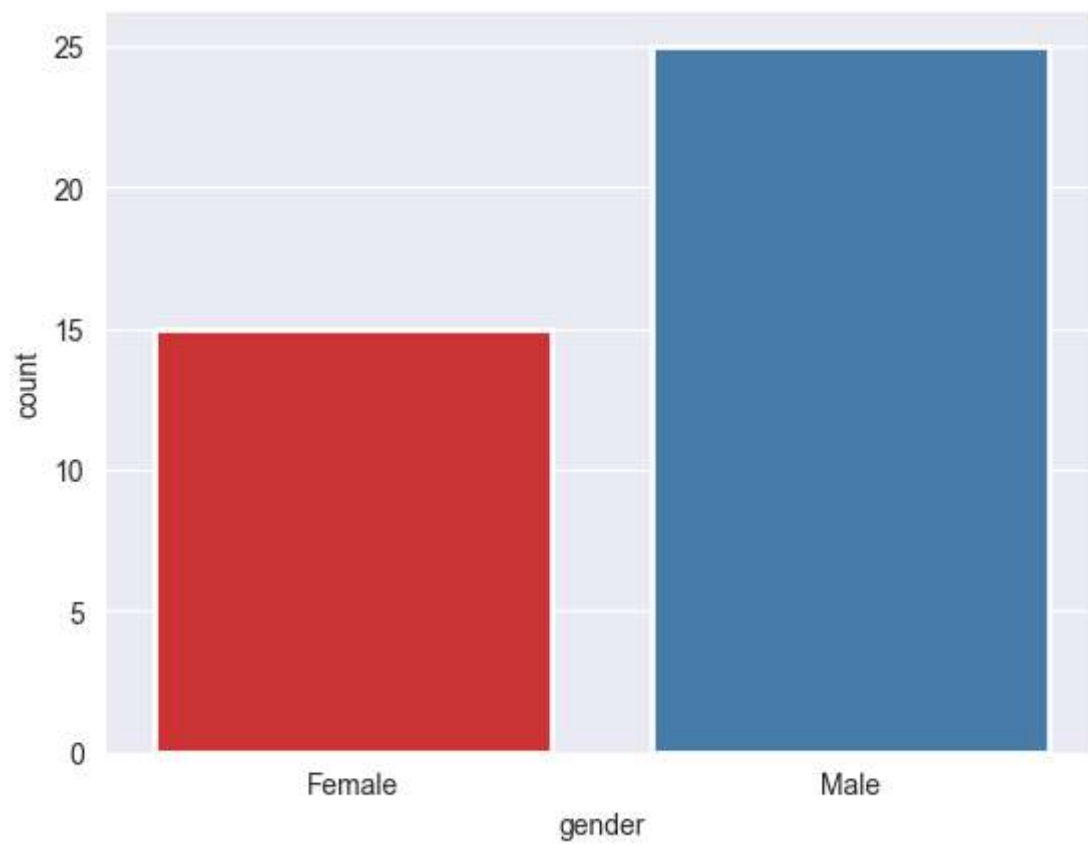
Investment Analysis and Portfolio Management													With Specific Objectives
	gender	age	Investment_Avenues	Stock_Markt	Factor	Objective	Purpose	Duration	Invest_Monitor	Expect	Avenue	Specific Objectives	
11	Male	29	Yes	Yes	Risk	Capital Appreciation	Wealth Creation	1-3 years	Monthly	20%-30%	Mutual Fund	Retirement	
12	Female	21	No	No	Returns	Capital Appreciation	Savings for Future	1-3 years	Weekly	20%-30%	Mutual Fund	Education	
13	Female	28	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	1-3 years	Monthly	20%-30%	Mutual Fund	Retirement	
14	Female	25	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	1-3 years	Monthly	20%-30%	Fixed Deposits	Healthcare	
15	Male	27	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	1-3 years	Monthly	20%-30%	Mutual Fund	Healthcare	
16	Female	28	Yes	Yes	Risk	Growth	Wealth Creation	1-3 years	Monthly	20%-30%	Fixed Deposits	Healthcare	
17	Male	27	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	1-3 years	Monthly	20%-30%	Mutual Fund	Retirement	
18	Male	29	Yes	Yes	Risk	Capital Appreciation	Wealth Creation	1-3 years	Monthly	20%-30%	Mutual Fund	Retirement	
19	Male	26	Yes	Yes	Risk	Capital Appreciation	Wealth Creation	3-5 years	Monthly	20%-30%	Fixed Deposits	Healthcare	
20	Male	29	Yes	Yes	Returns	Growth	Wealth Creation	3-5 years	Weekly	20%-30%	Mutual Fund	Retirement	
21	Female	24	Yes	Yes	Risk	Capital Appreciation	Wealth Creation	3-5 years	Monthly	20%-30%	Equity	Healthcare	
22	Male	27	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	3-5 years	Monthly	20%-30%	Mutual Fund	Retirement	

	gender	age	Investment_Avenues	Stock_Market	Factor	Objective	Purpose	Duration	Invest_Monitor	Expect	Avenue	With_Specific_objective
23	Male	25	Yes	Yes	Risk	Growth	Savings for Future	3-5 years	Weekly	20%-30%	Public Provident Fund	Health
24	Female	26	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	3-5 years	Monthly	30%-40%	Public Provident Fund	Retirement
25	Female	32	Yes	Yes	Risk	Growth	Wealth Creation	3-5 years	Monthly	20%-30%	Mutual Fund	Retirement
26	Male	26	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	3-5 years	Monthly	20%-30%	Mutual Fund	Retirement
27	Male	31	Yes	Yes	Risk	Growth	Savings for Future	1-3 years	Monthly	20%-30%	Fixed Deposits	Health
28	Male	29	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	1-3 years	Monthly	20%-30%	Equity	Retirement
29	Female	34	Yes	Yes	Returns	Income	Returns	3-5 years	Monthly	10%-20%	Mutual Fund	Retirement
30	Male	27	Yes	No	Returns	Growth	Wealth Creation	1-3 years	Monthly	10%-20%	Mutual Fund	Education
31	Female	31	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	3-5 years	Monthly	20%-30%	Fixed Deposits	Retirement
32	Male	27	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	3-5 years	Monthly	30%-40%	Equity	Health
33	Male	26	Yes	Yes	Returns	Capital Appreciation	Returns	1-3 years	Monthly	20%-30%	Fixed Deposits	Education
34	Male	27	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	1-3 years	Weekly	20%-30%	Mutual Fund	Health

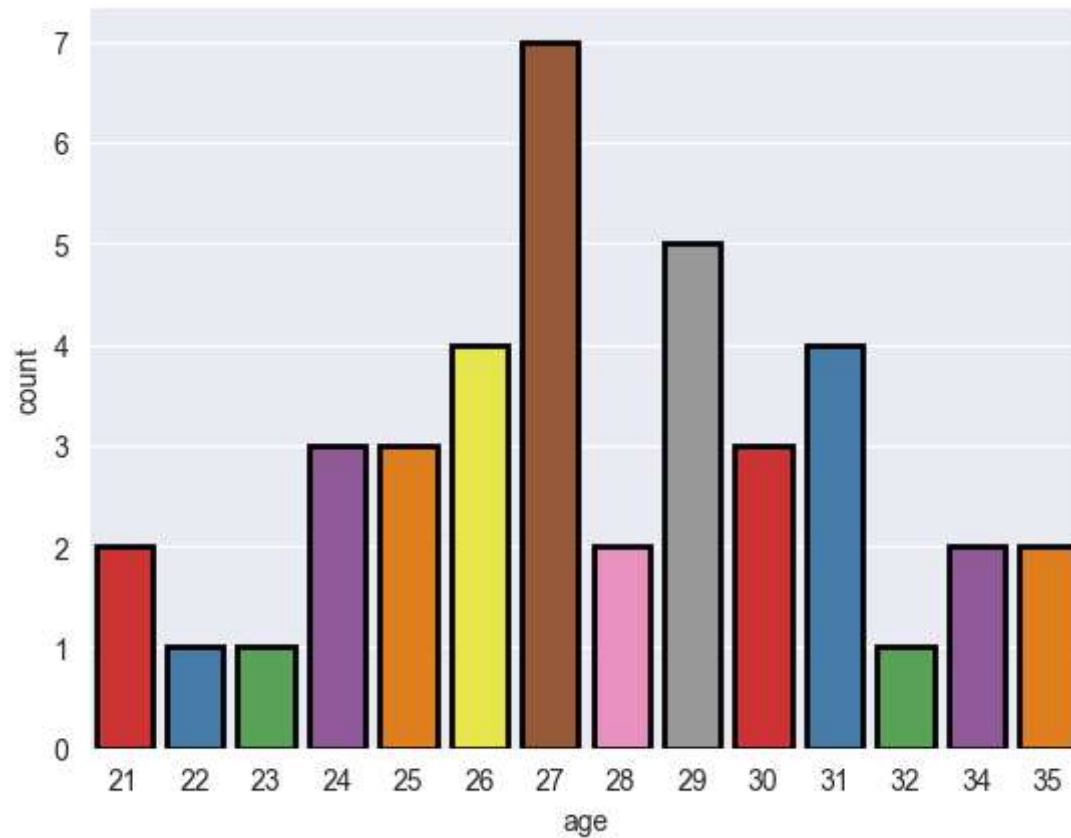
	gender	age	Investment_Avenues	Stock_Market	Factor	Objective	Purpose	Duration	Invest_Monitor	Expect	Avenue	Wt s obje
35	Male	30	Yes	Yes	Risk	Growth	Wealth Creation	3-5 years	Monthly	20%-30%	Fixed Deposits	Healt
36	Male	30	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	1-3 years	Monthly	20%-30%	Equity	Retir
37	Male	25	Yes	Yes	Risk	Growth	Savings for Future	3-5 years	Monthly	30%-40%	Public Provident Fund	Healt
38	Male	31	Yes	Yes	Risk	Growth	Wealth Creation	1-3 years	Weekly	20%-30%	Equity	Healt
39	Male	29	Yes	Yes	Returns	Capital Appreciation	Wealth Creation	3-5 years	Monthly	20%-30%	Fixed Deposits	Retir

```
In [11]: df=df.replace(r'^\s*$',np.NaN,regex=True)
```

```
In [22]: sns.countplot(x = 'gender',data=df,linewidth=2,palette='Set1',edgecolor='white')
plt.show()
```

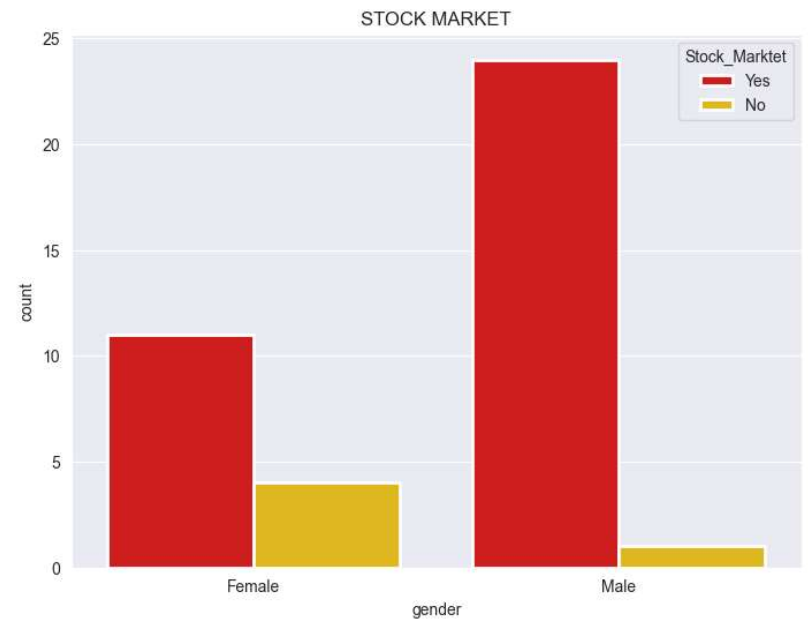
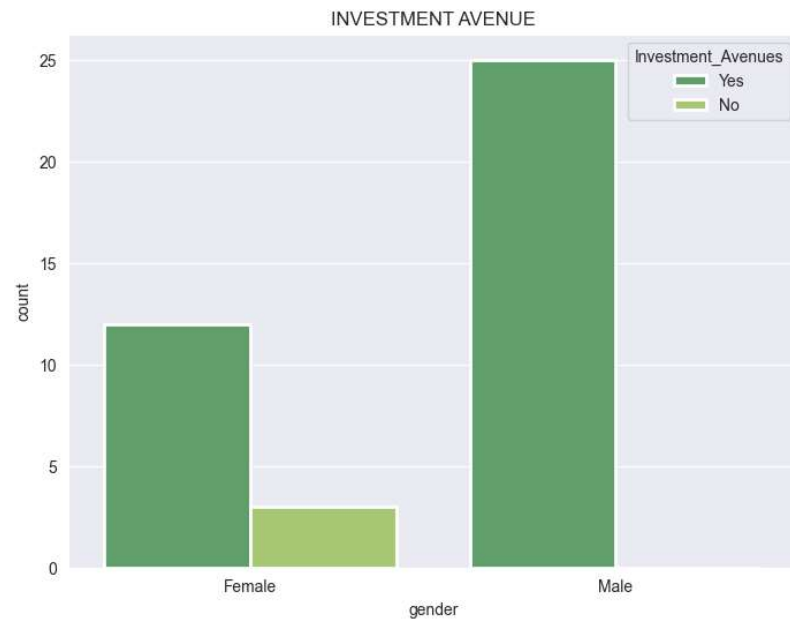


```
In [27]: sns.countplot(x='age',data=df,palette='Set1',linewidth=2,edgecolor='Black')  
plt.show()
```

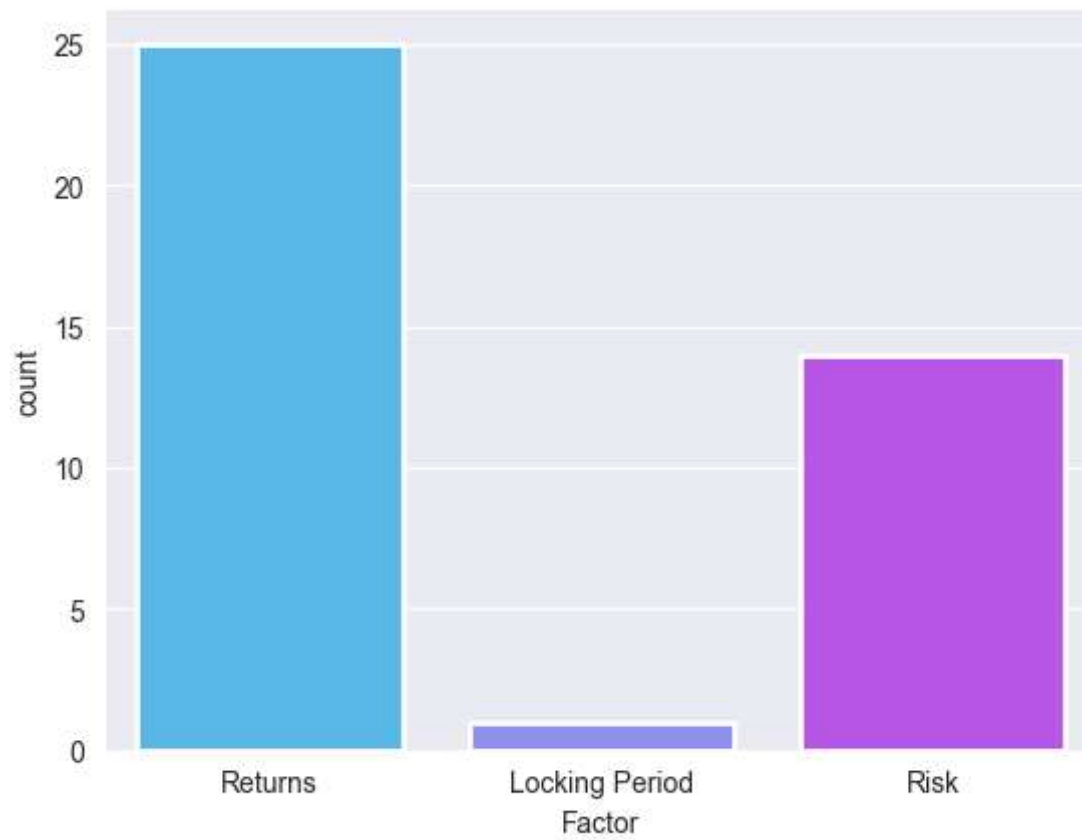


```
In [31]: plt.figure(figsize=(18,6))
plt.subplot(1,2,1)
sns.countplot(x=df['gender'],hue=df['Investment_Avenues'],palette='summer',linewidth=2,edgecolor='White')
plt.title('INVESTMENT AVENUE')

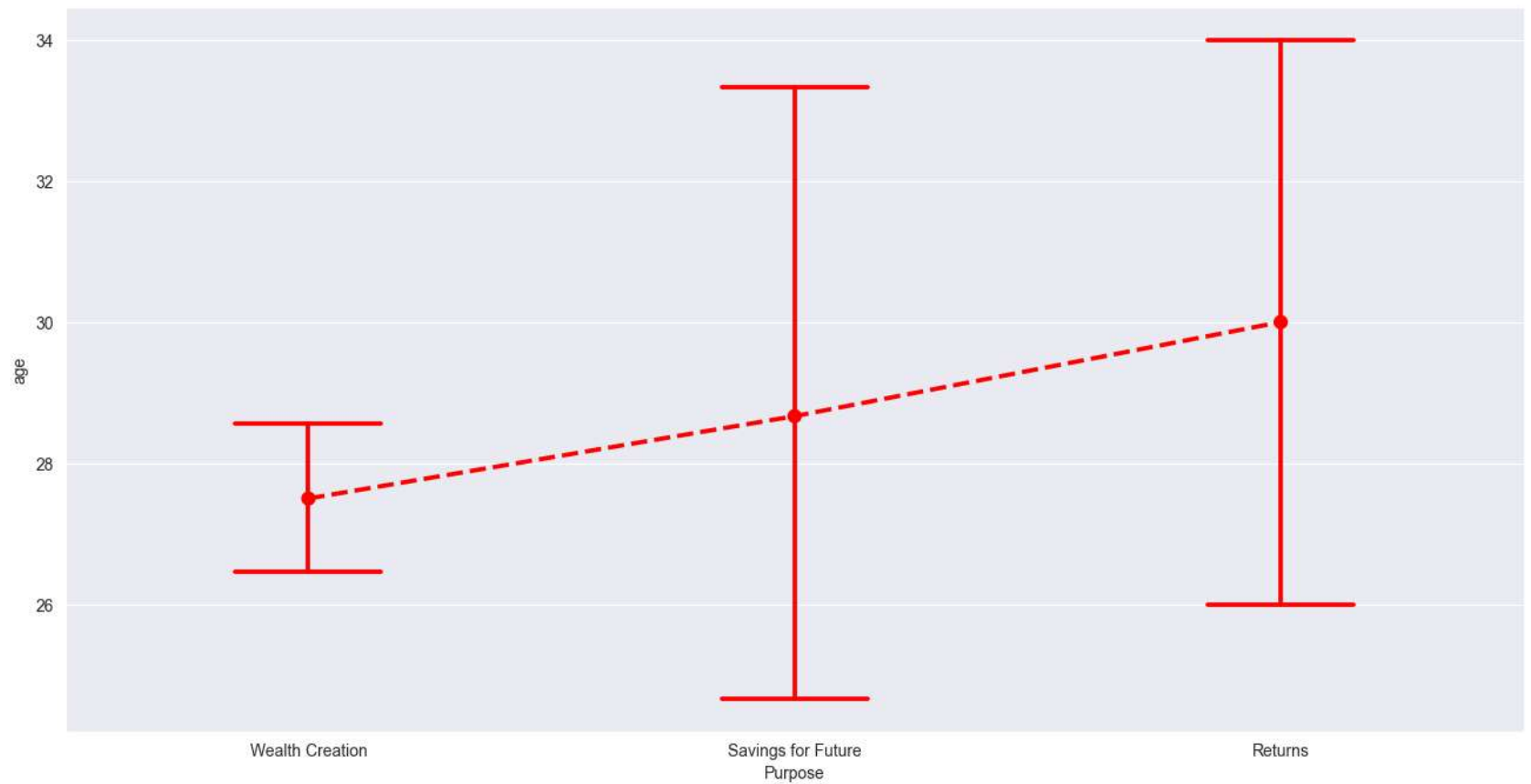
plt.subplot(1,2,2)
sns.countplot(x=df['gender'],hue=df['Stock_Market'],palette='hot',linewidth=2,edgecolor='White')
plt.title('STOCK MARKET')
plt.show()
```



```
In [32]: sns.countplot(x=df['Factor'],palette='cool',linewidth=2,edgecolor='white')
plt.show()
```



```
In [40]: plt.figure(figsize = (16,8))  
sns.pointplot(x="Purpose",y="age",data=df, linestyle= "--",capsize=.3,color='RED')  
plt.show()
```

```
In [44]: plt.figure(figsize=(18,6))
plt.subplot(1,2,1)
sns.countplot(hue=df['gender'],x=df['Duration'],palette='viridis',linewidth=2,edgecolor='black')
plt.title('DURATION')
plt.show()

plt.subplot(1,2,2)
sns.countplot(hue=df["gender"],x=['Invest_Monitor'],palette='seismic',linewidth=2,edgecolor='white')
plt.title("INVESTMENT MONITORING")
plt.show()
```

