In [15]:
```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
import os
```

In [16]:
```
income_df=pd.read_csv(r"C:\Users\hp\Documents\ALL CSV FILE\Inc_Exp_Data.csv")
income_df.head()
```

Out[16]:

	Mthly_HH_Income	Mthly_HH_Expense	No_of_Fly_Members	Emi_or_Rent_Amt	Annua
0	5000	8000	3	2000	
1	6000	7000	2	3000	
2	10000	4500	2	0	
3	10000	2000	1	0	
4	12500	12000	2	3000	

In [17]:
```
income_df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 50 entries, 0 to 49
Data columns (total 7 columns):
 #   Column                   Non-Null Count  Dtype 
---  ------                   --------------  ----- 
 0   Mthly_HH_Income          50 non-null     int64 
 1   Mthly_HH_Expense         50 non-null     int64 
 2   No_of_Fly_Members        50 non-null     int64 
 3   Emi_or_Rent_Amt          50 non-null     int64 
 4   Annual_HH_Income         50 non-null     int64 
 5   Highest_Qualified_Member 50 non-null     object
 6   No_of_Earning_Members    50 non-null     int64 
dtypes: int64(6), object(1)
memory usage: 2.9+ KB
```

In [18]:
```
income_df.shape
```

Out[18]: (50, 7)

In [19]:
```
income_df.describe().T
```

Out[19]:

	count	mean	std	min	25%	50%
Mthly_HH_Income	50.0	41558.00	26097.908979	5000.0	23550.0	35000.0
Mthly_HH_Expense	50.0	18818.00	12090.216824	2000.0	10000.0	15500.0
No_of_Fly_Members	50.0	4.06	1.517382	1.0	3.0	4.0
Emi_or_Rent_Amt	50.0	3060.00	6241.434948	0.0	0.0	0.0
Annual_HH_Income	50.0	490019.04	320135.792123	64200.0	258750.0	447420.0
No_of_Earning_Members	50.0	1.46	0.734291	1.0	1.0	1.0

In [20]:
```
income_df.isna().any()
```

Out[20]:
```
Mthly_HH_Income            False
Mthly_HH_Expense           False
No_of_Fly_Members          False
Emi_or_Rent_Amt            False
Annual_HH_Income           False
Highest_Qualified_Member   False
No_of_Earning_Members      False
dtype: bool
```

In [21]:
```
income_df["Mthly_HH_Expense"].mean()
```

Out[21]:
```
np.float64(18818.0)
```

In [22]:
```
income_df["Mthly_HH_Expense"].median()
```

Out[22]:
```
15500.0
```

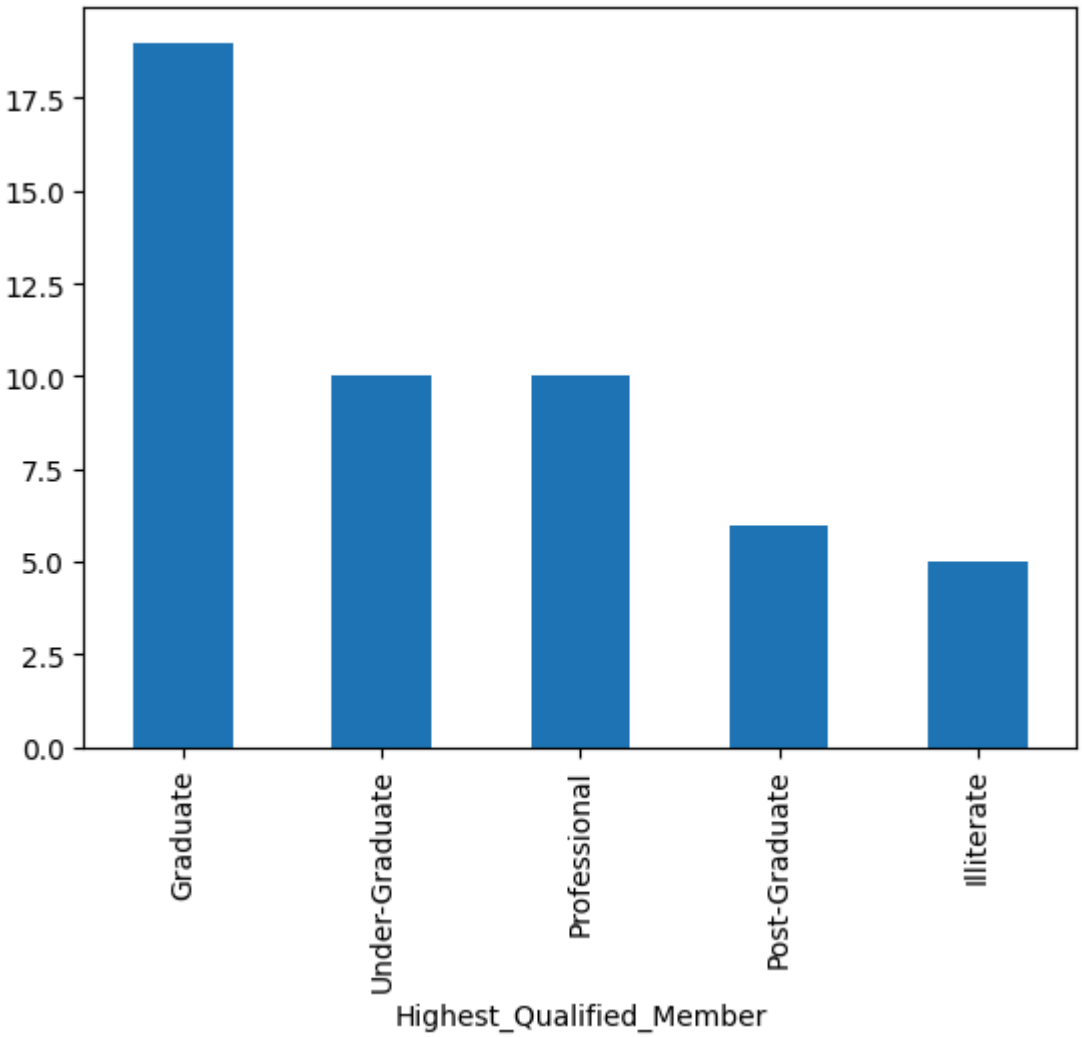
In [27]:
```
mth_exp_tmp = pd.crosstab(index=income_df["Mthly_HH_Expense"], columns="count")
mth_exp_tmp.reset_index(inplace=True)
mth_exp_tmp[mth_exp_tmp['count'] == income_df.Mthly_HH_Expense.value_counts().ma
```

Out[27]:

col_0	Mthly_HH_Expense	count
18	25000	8

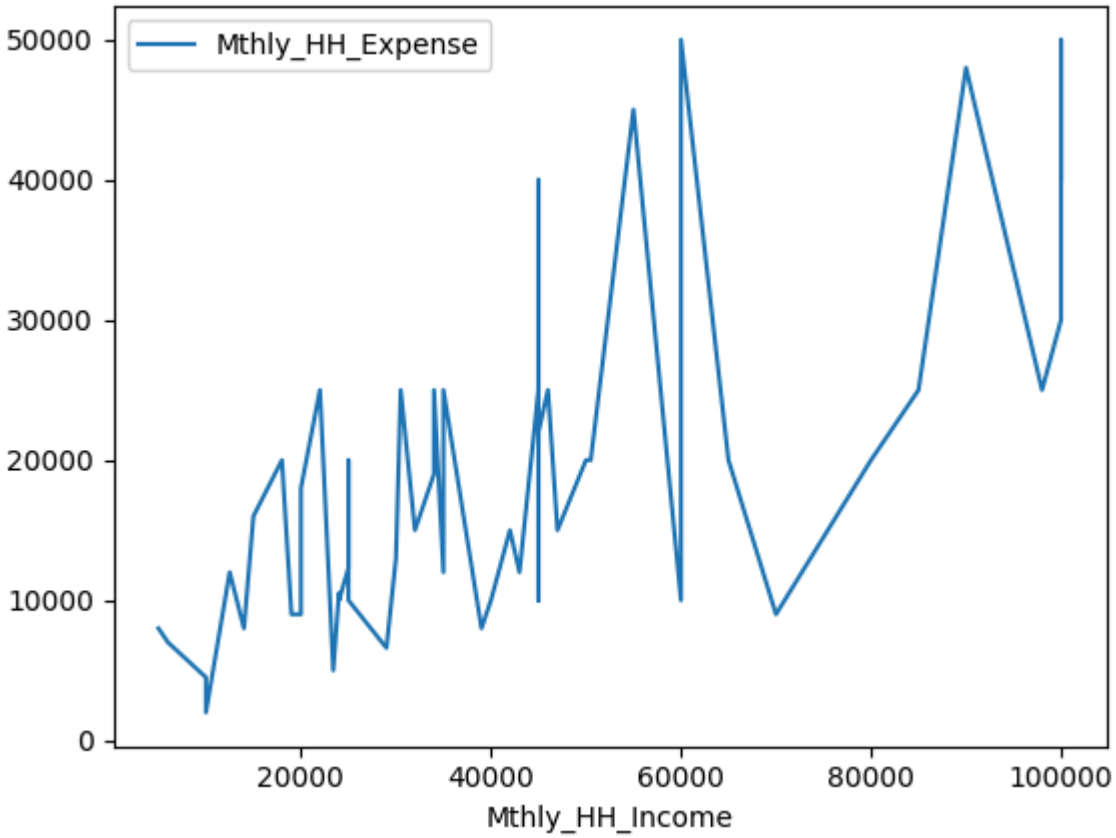
In [28]:
```
income_df["Highest_Qualified_Member"].value_counts().plot(kind="bar")
```

Out[28]:
```
<Axes: xlabel='Highest_Qualified_Member'>
```



In [31]:
```
income_df.plot(x="Mthly_HH_Income" , y="Mthly_HH_Expense")
IQR=income_df["Mthly_HH_Expense"].quantile(0.75)-income_df["Mthly_HH_Expense"].q
IQR
```

Out[31]: np.float64(15000.0)



In [32]:
```
pd.DataFrame(income_df.iloc[:,0:5].std().to_frame()).T
```

Out[32]:

	Mthly_HH_Income	Mthly_HH_Expense	No_of_Fly_Members	Emi_or_Rent_Amt	Annua
0	26097.908979	12090.216824	1.517382	6241.434948	3

In [33]:
```
pd.DataFrame(income_df.iloc[:,0:4].var().to_frame()).T
```

Out[33]:

	Mthly_HH_Income	Mthly_HH_Expense	No_of_Fly_Members	Emi_or_Rent_Amt
0	6.811009e+08	1.461733e+08	2.302449	3.895551e+07

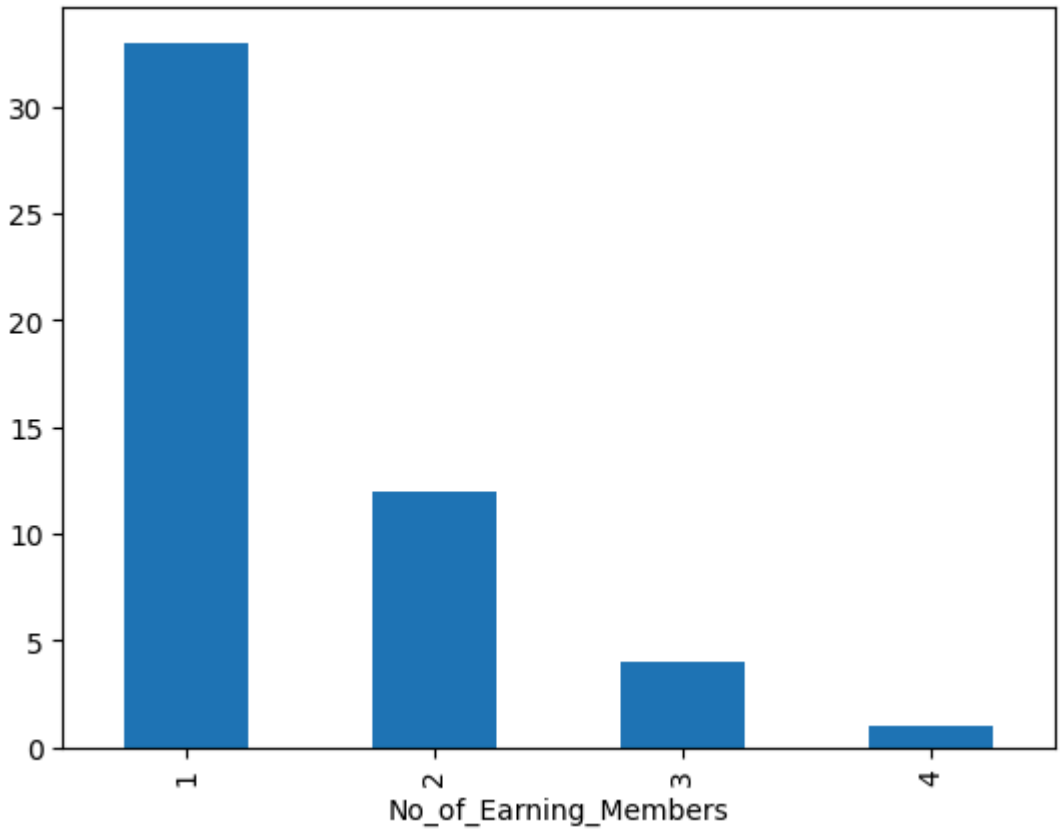
In [34]:
```
income_df["Highest_Qualified_Member"].value_counts().to_frame().T
```

Out[34]:

Highest_Qualified_Member	Graduate	Under-Graduate	Professional	Post-Graduate	Illiterate
count	19	10	10	6	5

In [35]:
```
income_df["No_of_Earning_Members"].value_counts().plot(kind="bar")
```

Out[35]:
```
<Axes: xlabel='No_of_Earning_Members'>
```



In [36]:
```
Coeff_of_var_stockA=10/15
print(Coeff_of_var_stockA)
Coeff_of_var_stockB=5/10
print(Coeff_of_var_stockB)
```

```
0.6666666666666666
0.5
```

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