```
#Profit prediction using LinearRegression
import pandas as pd
import numpy as np
from sklearn.linear_model import LinearRegression
model=LinearRegression()
df1=pd.read_csv("/content/Ice Cream Sales - temperatures.csv")
t=np.array([i for i in df1["Temperature"]]).reshape(-1,1)
p=df1["Ice Cream Profits"]
model.fit(t,p)
n=int(input("Enter Temperature:"))
profit=(model.predict([[n]]))
print(profit)
if(profit<-5 and profit>-10):
  print("Sales are very low, decrease production")
elif(profit>-5 and profit<10):
  print("Sales are linear please spend some more on marketing")
elif(profit>10):
  print("Sales are rapid, increase production")
else:
  print("Margins are negative, take a break from business :)")
```

```
    Enter Temperature:11
    [-20.58606778]
    Margins are negative, take a break from business :)
```

```
df1['Profit'] = df1['Ice Cream Profits'].apply(lambda x:1 if x>50 else 0)
df1.to_csv("Updated Icecreams.csv")
```

```
import pandas as pd
import seaborn as sns
df=pd.read_csv("/content/dummy_data.csv")
df
```

	age	gender	time_spent	platform	interests	location	demographics	profession	income	indebt	isHomeOwner	Owns_Car
0	56	male	3	Instagram	Sports	United Kingdom	Urban	Software Engineer	19774	True	False	False
1	46	female	2	Facebook	Travel	United Kingdom	Urban	Student	10564	True	True	True
2	32	male	8	Instagram	Sports	Australia	Sub_Urban	Marketer Manager	13258	False	False	False
3	60	non-binary	5	Instagram	Travel	United Kingdom	Urban	Student	12500	False	True	False
4	25	male	1	Instagram	Lifestlye	Australia	Urban	Software Engineer	14566	False	True	True
...	...	...	...	...	...	...	...	...	...	...	...	...
995	22	female	8	Instagram	Lifestlye	United Kingdom	Rural	Marketer Manager	18536	False	True	False
996	40	non-binary	6	YouTube	Travel	United Kingdom	Rural	Software Engineer	12711	True	False	False

```
df.loc[df['platform'] == 'Instagram']#To retrieve specific data
```

	age	gender	time_spent	platform	interests	location	demographics	profession	income	indebt	isHomeOwner	Owns_Car
0	56	male	3	Instagram	Sports	United Kingdom	Urban	Software Engineer	19774	True	False	False
2	32	male	8	Instagram	Sports	Australia	Sub_Urban	Marketer Manager	13258	False	False	False
3	60	non-binary	5	Instagram	Travel	United Kingdom	Urban	Student	12500	False	True	False
4	25	male	1	Instagram	Lifestlye	Australia	Urban	Software Engineer	14566	False	True	True
7	36	male	4	Instagram	Sports	Australia	Urban	Marketer Manager	13636	True	False	True
...	...	...	...	...	...	...	...	...	...	...	...	...
983	43	female	3	Instagram	Travel	United States	Sub_Urban	Marketer Manager	10191	True	False	False
984	31	male	3	Instagram	Travel	United Kingdom	Rural	Software Engineer	18587	True	True	False

```
sns.relplot(data=df,x="age",y="time_spent",hue="platform",style="interests")
```

```
<seaborn.axisgrid.FacetGrid at 0x79dfd3d0e950>
```
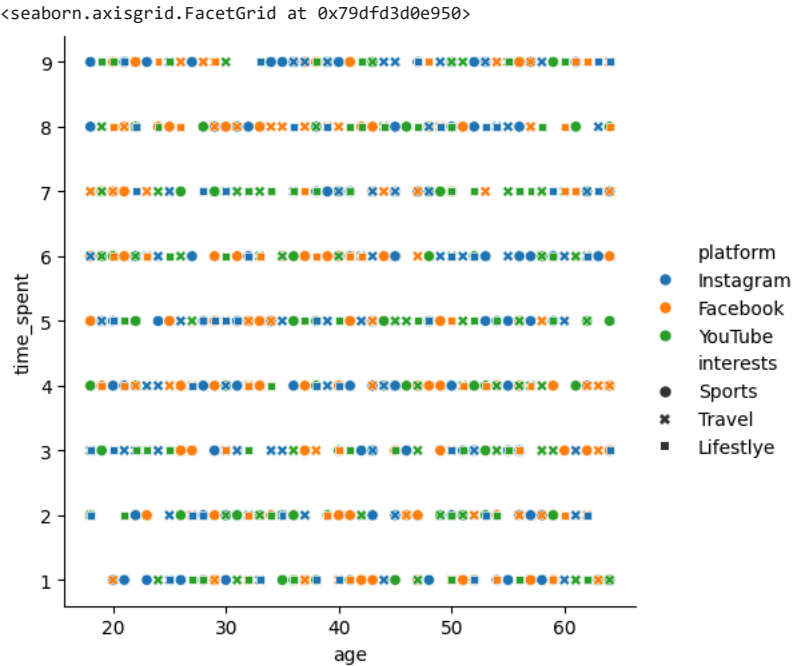


```
df2=pd.read_csv("/content/data.csv",encoding="latin1")
df2
```

	stn_code	sampling_date	state	location	agency	type	so2	no2	rspm	spm	location_monitoring_station	pm2_5	dat
0	150.0	February - M021990	Andhra Pradesh	Hyderabad	NaN	Residential, Rural and other Areas	4.8	17.4	NaN	NaN	NaN	NaN	1990 02-0
1	151.0	February - M021990	Andhra Pradesh	Hyderabad	NaN	Industrial Area	3.1	7.0	NaN	NaN	NaN	NaN	1990 02-0
2	152.0	February - M021990	Andhra Pradesh	Hyderabad	NaN	Residential, Rural and other Areas	6.2	28.5	NaN	NaN	NaN	NaN	1990 02-0
3	150.0	March - M031990	Andhra Pradesh	Hyderabad	NaN	Residential, Rural and other Areas	6.3	14.7	NaN	NaN	NaN	NaN	1990 03-0
4	151.0	March - M031990	Andhra Pradesh	Hyderabad	NaN	Industrial Area	4.7	7.5	NaN	NaN	NaN	NaN	1990 03-0
...	...	...	...	...	...	...	...	...	...	...	...	...	
39130	NaN	10/10/2006	Assam	Guwahati	NaN	Residential and others	12	14.1	89	120	Head Office	NaN	2006 10-1
39131	NaN	10/11/2006	Assam	Guwahati	NaN	Residential and others	12	16.5	81	116	Head Office	NaN	2006 11-1
39132	NaN	10/12/2006	Assam	Guwahati	NaN	Residential and others	6.8	15.8	68	98	Head Office	NaN	2006 12-1
39133	NaN	13/10/2006	Assam	Guwahati	NaN	Residential and others	14	20.8	77	87	Head Office	NaN	2006 10-1
39134	NaN	14/10/2006	Assam	Guwahati	NaN	Residential and others	9.5	23.0	105	196	Head Office	N	Na

39135 rows × 13 columns

```python
df3=df2.loc[df2["location"]=="Hyderabad"]
df3
```

	stn_code	sampling_date	state	location	agency	type	so2	no2	rspm	spm	location_monitoring_station	pm2_5	da
0	150.0	February - M021990	Andhra Pradesh	Hyderabad	NaN	Residential, Rural and other Areas	4.8	17.4	NaN	NaN	NaN	NaN	199 02-
1	151.0	February - M021990	Andhra Pradesh	Hyderabad	NaN	Industrial Area	3.1	7.0	NaN	NaN	NaN	NaN	199 02-

```
sns.relplot(data=df3,x="location",y="no2",marker="H",hue="location",color="black",palette="bright")
```

```
<seaborn.axisgrid.FacetGrid at 0x79dfd1b9d300>
```
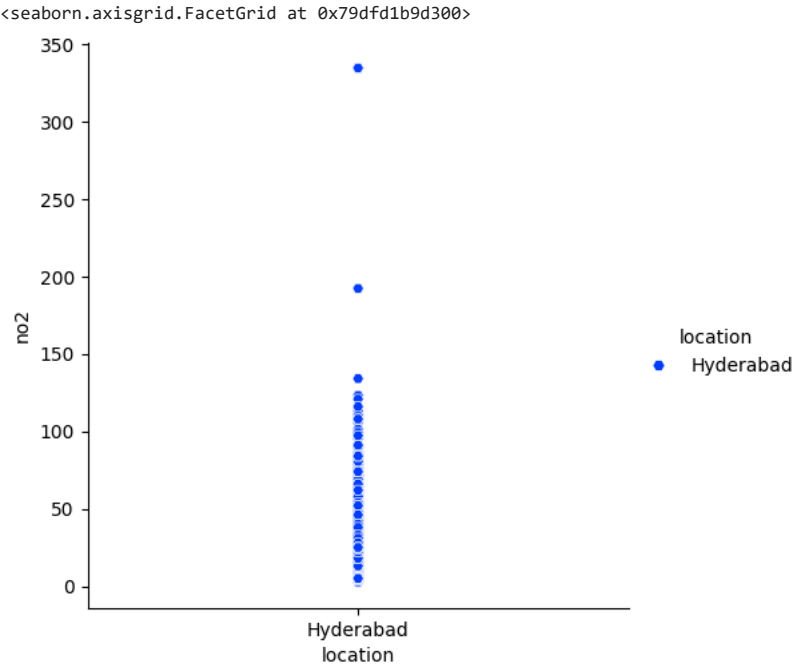


```
sns.relplot(data=df3,x="location",y="so2",marker="H",hue="type
",color="black",palette="bright")
```

```
<seaborn.axisgrid.FacetGrid at 0x79dfcfead7b0>
```