```
#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):</pre>
 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")
```

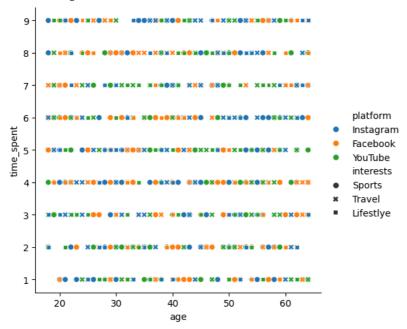
	age	gender	time_spent	platform	interests	location	demographics	profession	income	indebt	isHomeOwner	Owns_Car
0	56	male	3	Instagram	Sports	United Kingdom	Urban	Software Engineer	19774	True	False	False
1	46	female	2	Facebook	Travel	United Kingdom	Urban	Student	10564	True	True	True
2	32	male	8	Instagram	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	ome indebt	isHomeOwner	Owns_Car
0	56	male	3	Instagram	Sports	United Kingdom	Urban	Urban Software Engineer		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

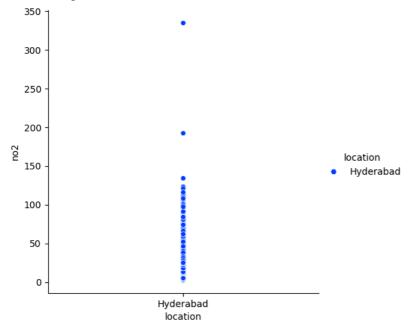
stn_code	sampling_date	state	location	agency	type	so2	no2	rspm	spm	<pre>location_monitoring_station</pre>	pm2_5	dat
150.0	February - M021990	Andhra Pradesh	Hyderabad	NaN	Residential, Rural and other Areas	4.8	17.4	NaN	NaN	NaN	NaN	199 02-
151.0	February - M021990	Andhra Pradesh	Hyderabad	NaN	Industrial Area	3.1	7.0	NaN	NaN	NaN	NaN	199 02-
152.0	February - M021990	Andhra Pradesh	Hyderabad	NaN	Residential, Rural and other Areas	6.2	28.5	NaN	NaN	NaN	NaN	199 02-
150.0	March - M031990	Andhra Pradesh	Hyderabad	NaN	Residential, Rural and other Areas	6.3	14.7	NaN	NaN	NaN	NaN	199 03-
151.0	March - M031990	Andhra Pradesh	Hyderabad	NaN	Industrial Area	4.7	7.5	NaN	NaN	NaN	NaN	199 03-
NaN	10/10/2006	Assam	Guwahati	NaN	Residential and others	12	14.1	89	120	Head Office	NaN	200 10-
NaN	10/11/2006	Assam	Guwahati	NaN	Residential and others	12	16.5	81	116	Head Office	NaN	200 11-
NaN	10/12/2006	Assam	Guwahati	NaN	Residential and others	6.8	15.8	68	98	Head Office	NaN	200 12-
NaN	13/10/2006	Assam	Guwahati	NaN	Residential and others	14	20.8	77	87	Head Office	NaN	200 10-
NaN	14/10/2006	Assam	Guwahati	NaN	Residential and others	9.5	23.0	105	196	Head Office	N	Na
	150.0 151.0 152.0 150.0 151.0  NaN NaN	150.0 February - M021990  151.0 February - M021990  152.0 February - M021990  150.0 March - M031990   NaN 10/10/2006  NaN 10/11/2006  NaN 10/12/2006  NaN 13/10/2006	150.0 February - Andhra Pradesh  151.0 February - Andhra Pradesh  152.0 February - Andhra Pradesh  152.0 March - Andhra Pradesh  150.0 March - Andhra Pradesh  151.0 March - Andhra Pradesh  Man 10/10/2006 Assam  NaN 10/11/2006 Assam  NaN 10/12/2006 Assam  NaN 13/10/2006 Assam	150.0 February - Andhra Pradesh Hyderabad  151.0 February - Andhra Pradesh Hyderabad  152.0 February - Andhra Pradesh Hyderabad  152.0 March - Andhra Pradesh Hyderabad  150.0 March - Andhra Pradesh Hyderabad  151.0 March - Andhra Pradesh Hyderabad  151.0 March - Andhra Pradesh Hyderabad  151.0 March - Andhra Pradesh Guwahati  NaN 10/10/2006 Assam Guwahati  NaN 10/11/2006 Assam Guwahati  NaN 13/10/2006 Assam Guwahati	150.0 February - Andhra M021990 Pradesh Hyderabad NaN 151.0 February - Andhra M021990 Pradesh Hyderabad NaN 152.0 February - 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Andhra M031990 Pradesh Hyderabad NaN Residential, Rural and other Areas  151.0 March - Andhra M031990 Pradesh Hyderabad NaN Rural and other Areas  151.0 March - Andhra M031990 Pradesh Hyderabad NaN Residential Area 4.7 7.5	150.0   February -   Andhra   Hyderabad   NaN   Residential   Rural and other Areas   3.1   7.0   NaN     151.0   February -   Andhra   Mo21990   Pradesh   Hyderabad   NaN   Industrial   Area   3.1   7.0   NaN     152.0   February -   Andhra   Mo21990   Pradesh   Hyderabad   NaN   Residential   Rural and other Areas     150.0   March -   Andhra   Mo31990   Pradesh   Hyderabad   NaN   Residential   Rural and other Areas     151.0   March -   Andhra   Mo31990   Pradesh   Hyderabad   NaN   Industrial   Area   4.7   7.5   NaN     151.0   March -   Andhra   Mo31990   Pradesh   Hyderabad   NaN   Industrial   Area   4.7   7.5   NaN     10/10/2006   Assam   Guwahati   NaN   Residential   and others   12   14.1   89     NaN   10/11/2006   Assam   Guwahati   NaN   Residential   and others   12   16.5   81     NaN   13/10/2006   Assam   Guwahati   NaN   Residential   and others   6.8   15.8   68     NaN   13/10/2006   Assam   Guwahati   NaN   Residential   and others   14   20.8   77     Pasidential   Rural and   4.8   17.4   NaN   NaN   Residential   14   20.8   77     Pasidential   Rural and   4.8   17.4   NaN   NaN   Residential   14   20.8   77     151.0   March -   Andhra   Mo31990   Pradesh   Hyderabad   NaN   Residential   14   20.8   77     151.0   March -   Andhra   Mo31990   Pradesh   Hyderabad   NaN   Residential   14   20.8   77     151.0   Residential   Area   Andhra   Area   Andhra   Area   Andhra   Area   Andhra   Andhra   Area   Andhra   Andhra   Area   Andhra   And	150.0   February - Mo21990   Pradesh   Hyderabad   NaN   Residential, Rural and other Areas   17.4   NaN   Nan	150.0   February - Andhra   Mo21990   Pradesh   Hyderabad   NaN   Rural and other Areas   4.8   17.4   NaN   NaN   NaN   NaN	150.0   February - Andhra   Myderabad   NaN   Residential   Rural and other Areas   4.8   17.4   NaN   NaN

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

	stn_code	<pre>sampling_date</pre>	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")





 $\label{lem:sns.relplot} $$sns.relplot(data=df3,x="location",y="so2",marker="H",hue="type",color="black",palette="bright")$ 

<seaborn.axisgrid.FacetGrid at 0x79dfcfead7b0>