Given features.

Local Price	Garages	construction type
Bathrooms	Rooms	
Land Area	Bedrooms	Y.
Living Area	Age of Home	~~Appartr~~ Apartment 7/20
		House 7/20
		condo 6/20.

X

Since Local Price, Land Area, Living Area and Age of Home continuous values, we need to calculate mean and various of ~~4~~ of the features.

Probabilities for other features with respect to Y variable.

Bathrooms	Apartment	House	Condo
1	5/7	6/7	~~4~~/6
1.5	1/7	1/7	1/6
2.5	1/7	0/7	1/6

Garages	Apartment	House	condo
0	1/7	2/7	0/6
1	3/7	2/7	4/6
1.5	1/7	1/7	0/6
2	2/7	2/7	2/6

Bedrooms	Apartment	House	condo
2	1/7	1/7	0/6
3	3/7	5/7	5/6
4	2/7	1/7	0/6
5	1/7	0/7	1/6

Rooms	Apartment	House	condo
5	1/7	1/7	0/6
6	2/7	4/7	4/6
7	2/7	2/7	1/6
8	1/7	0/7	0/6
9	1/7	0/7	0/6
10	0/7	0/7	1/6

Mean of Local price = 6.80749

Variance of Local price = 10.449824

Mean of Land Area = 6.264565

Variance of ~~Local~~ Land Area = 6.7315554

~~Mean of Land Area~~

Mean of Living Area = 1.47985

Variance of Living Area = 0.40008056.

Mean of Local Price when class is Apartment = 7.332742
Variance of Local Price when class is Apartment = 13.075436

Mean of Local Price when class is House = 5.760742
Variance of Local Price when class is House = 0.325038

Mean of Local Price when class is condo = 7.4159
Variance of Local Price when class is condo = 21.2636

Mean of Land Area when class is Apartment = 6.10365
variance of Land Area when class is Apartment 10.617864

Mean of Land Area when class is House = 6.6309
Variance of Land Area when class is House = 5.057880

Mean of Land Area when class is condo = 6.024666
Variance of Land Area when class is condo = 6.475891

Mean of Living Area when class is Apartment = 1.505
Variance of Living Area when class is Apartment = 0.49576

Mean of Living Area when class is House = 1.391714
Variance ~~Mean~~ of Living Area when class is House = 0.04533

Mean of Living Area when class is Condo = 1.55333
variance of Living Area when class is Condo = 0.85274

Conditional probability for the data set.

$$P(X_j \mid C = c_i) = \frac{1}{\sigma_{ji}\sqrt{2\pi}} e^{-\frac{(x_j - \mu_{ji})^2}{2\sigma_{ji}^2}}$$

where X_j is data point
C_i is class
σ_{ji} is standard deviation of X_j at C_i
σ_{ji}^2 is variance of X_j at C_i
μ_{ji} is mean of X_j at c_i

Mean of Age of Home at class Apartment = 38.71426
Variance of Age of Home at class Apartment = 215.57142

Mean of Age of Home at class House = 34.285714
Variance of Age of Home at class House = 161.90476

Mean of Age of Home at class condo = 39.66666
Variance of Age of Home at class condo = 194.66666.

~~Calculating~~

Calculating Conditional Probability for 1st row of ~~the~~ given test set

Local Price	Bathrooms Bedrooms	LandArea	LivingArea	Garages	Rooms	Bedrooms	Age of Home
6.0931	1.5	6.7265	1.652	1	6	3	44

$$P(\text{Living Area} \mid \text{Apart}) = \frac{1}{\sqrt{2\pi}(0.704)} e^{-\frac{(1.652-1.505)^2}{2\cdot(0.4957)}} = 0.5543$$

$$P(\text{Local price} \mid \text{Apartment}) = \frac{1}{\sqrt{2\pi}(3.2585)} e^{-\frac{(6.0931-7.33274)^2}{2\cdot(3.2585)^2}}$$

$$= 0.1040$$

$$P(\text{Land Area} \mid \text{Apartment}) = \frac{1}{\sqrt{2\pi}(3.2585)} e^{-\frac{(6.7265-6.10385)^2}{2\cdot(10.617884)}}$$

$$= 0.12021$$

$$P(\text{Age of Home} \mid \text{Apartment}) = \frac{1}{\sqrt{2\pi}(14.6823)} e^{-\frac{(44-35.714)^2}{2\cdot(215.5714)}}$$

$$= 0.025466.$$

Probability of Appartment for given dataset

$= P(\text{Local price} \mid \text{Apartment}) * P(\text{Bedrooms} \mid \text{Apartment}) * P(\text{Land Area} \mid \text{Apartment}) * P(\text{Living Area} \mid \text{Apartment}) * P(\text{Garages} \mid \text{Apartment}) * P(\text{Rooms} \mid \text{Apart}) * P(\text{Bathrooms} \mid \text{Apartment}) * P(\text{Age of home} \mid \text{Apartment}) * P(\text{Appartment})$

$\Rightarrow 0.5543 * 0.1040 * 0.12021 * 0.025466 * 1/7 * 3/7 * 3/7 * 2/7 * 7/20$

$\Rightarrow 0.000006461849845$