Secondary variables:

1. property\_type\_en -

Property\_Building = 1 - if property\_type\_en = Building, else 0

Property\_Unit = 1 - if property\_type\_en = Unit, else 0

Property\_Villa = 1 - if property\_type\_en = Villa, else 0

Reference is land

1. Nearest landmark -

train['Fam\_landmarks'] = np.where((train['nearest\_landmark\_en'].isin(['Jabel Ali','Burj Khalifa', 'Global Village', 'Downtown Dubai', 'Dubai International Airport', ‘Burj Al Arab’])), 1, 0)

Reference are other landmarks

1. Nearest mall:

train['close\_DubaiMall'] = train['nearest\_mall\_en'].apply(lambda x: 1 if x == 'Dubai Mall' else 0)

train['Close\_Marina\_EmiratesMall'] = np.where((train['nearest\_mall\_en'].isin(['Mall of the Emirates','Marina Mall'])), 1, 0)

train['Close\_MIRDIF\_IBNMall'] = np.where((train['nearest\_mall\_en'].isin(['City Centre Mirdif','Ibn-e-Battuta Mall'])), 1, 0)

No mall in the vicinity is the reference

1. reg\_type\_en:

Off\_Plan\_Reg = 1 if reg\_type\_en = Off-Plan Properties.

Reference is Existing Properties which is nothing but the fully constructed properties.

1. trans\_group\_en:

train['is\_sales'] = train['trans\_group\_en'].apply(lambda x: 1 if x == 'sales' else 0)

train['is\_gifts'] = train['trans\_group\_en'].apply(lambda x: 1 if x == 'gifts' else 0)

1. Sector list based on Area\_en.
2. For transaction\_group\_en:

train['is\_sales'] = train['trans\_group\_en'].apply(lambda x: 1 if x == 'sales' else 0)

train['is\_gifts'] = train['trans\_group\_en'].apply(lambda x: 1 if x == 'gifts' else 0)

Mortgage as reference.

1. Rooms\_en:

test['Rooms\_3\_4'] = np.where((test['rooms\_en'].isin(['3 B/R','4 B/R'])), 1, 0)

test['Rooms\_moreThan\_4'] = np.where((test['rooms\_en'].isin(['5 B/R','6 B/R', 'PENTHOUSE'])), 1, 0)

test['Rooms\_Studio\_Single'] = np.where((test['rooms\_en'].isin(['Single Room','Studio'])), 1, 0)

test['Rooms\_Commercial'] = np.where((test['rooms\_en'].isin(['Office','Shop', 'Store', ‘**GYM**’])), 1, 0)

test[['rooms\_en', 'Rooms\_3\_4', 'Rooms\_moreThan\_4', 'Rooms\_Studio\_Single', 'Rooms\_Commercial']].head()

Rooms 1-2 is considered as reference.

1. Property\_usage -

train['usage\_residential'] = train['property\_usage\_en'].apply(lambda x: 1 if x == 'residential' else 0)

train['uasge\_hospitality'] = train['property\_usage\_en'].apply(lambda x: 1 if x == 'hospitality' else 0) commercial is reference.