KERNEL SVM

MOHAN M J

INTUITION

Linearly Separable — Not Linearly Separable
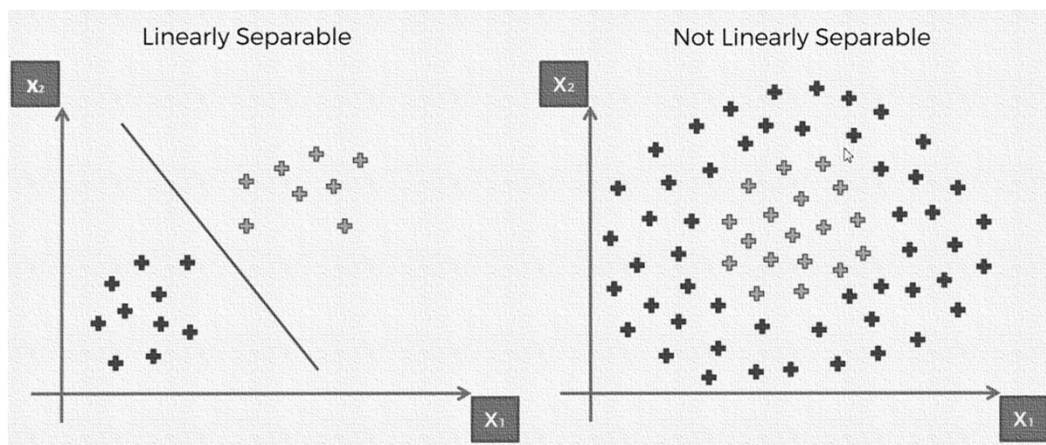
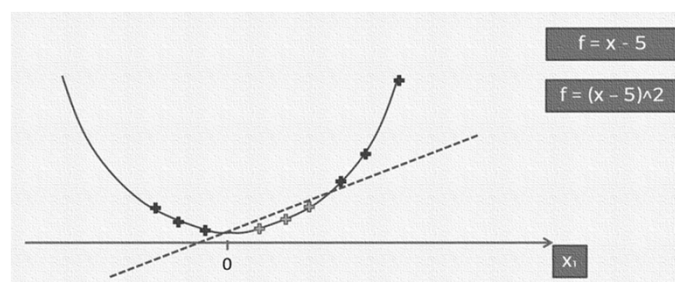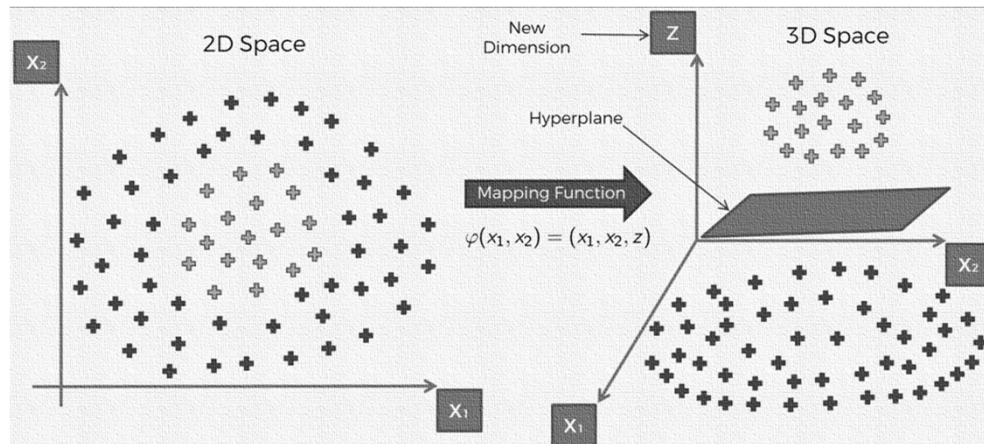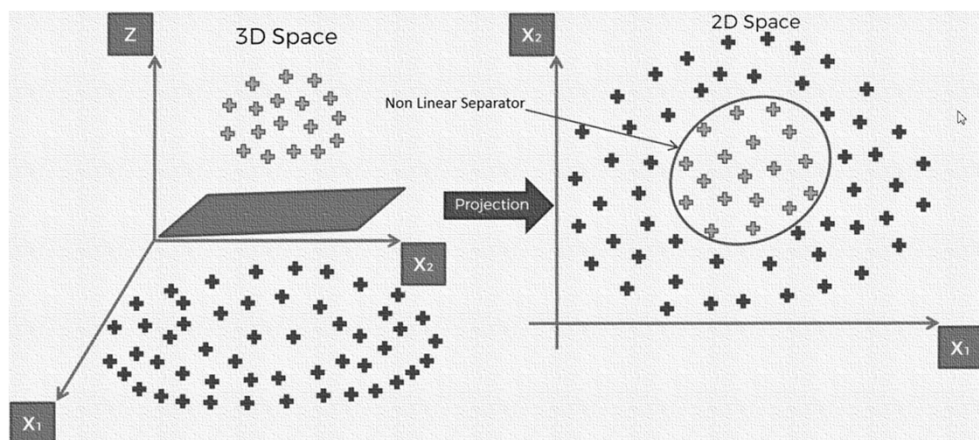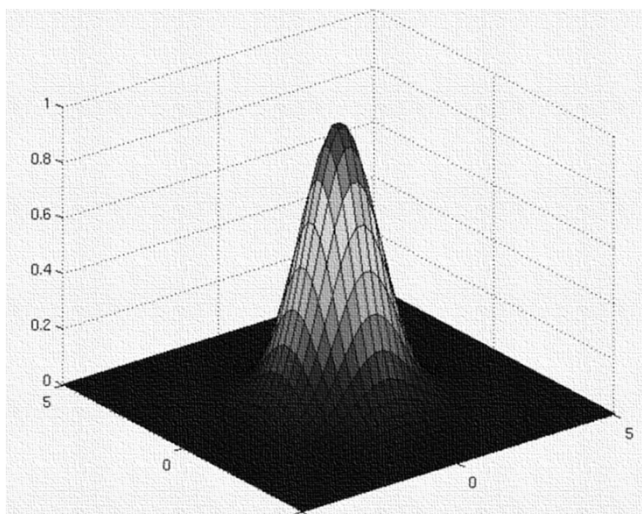# MAPPING TO HIGHER DIMENSION
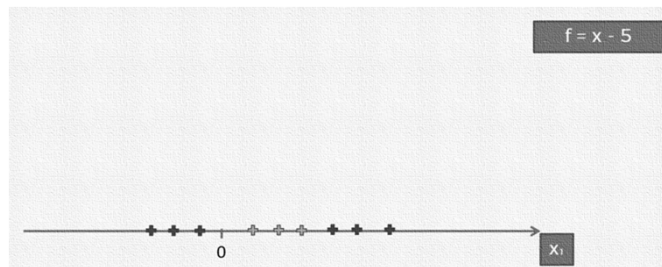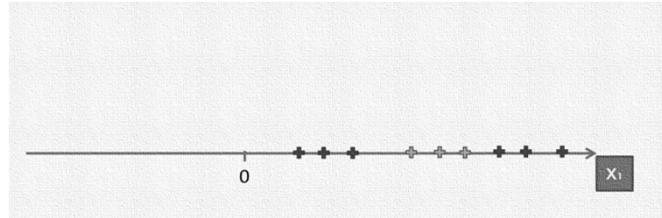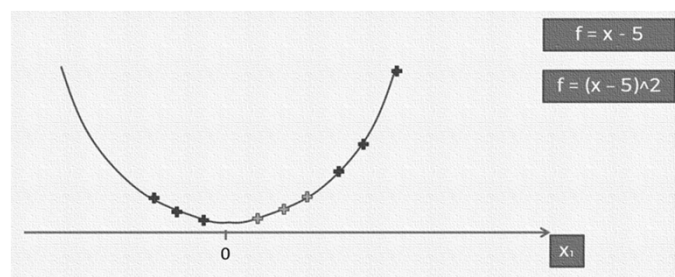
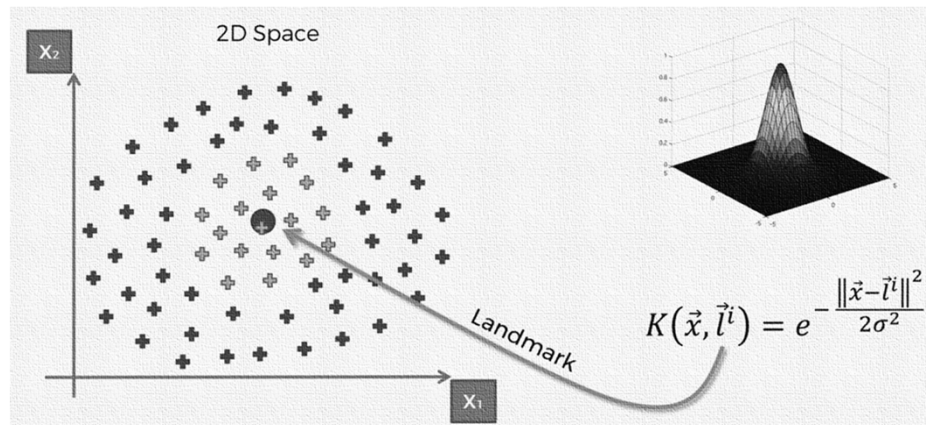# CONTD..

CONTD..

CONTD..

Mapping to higher dimensional space can be highly compute intensive

GAUSSIAN (RBF) KERNEL

$$K\left(\vec{x}, \vec{l^i}\right) = e^{-\frac{\left\|\vec{x} - \vec{l^i}\right\|^2}{2\sigma^2}}$$
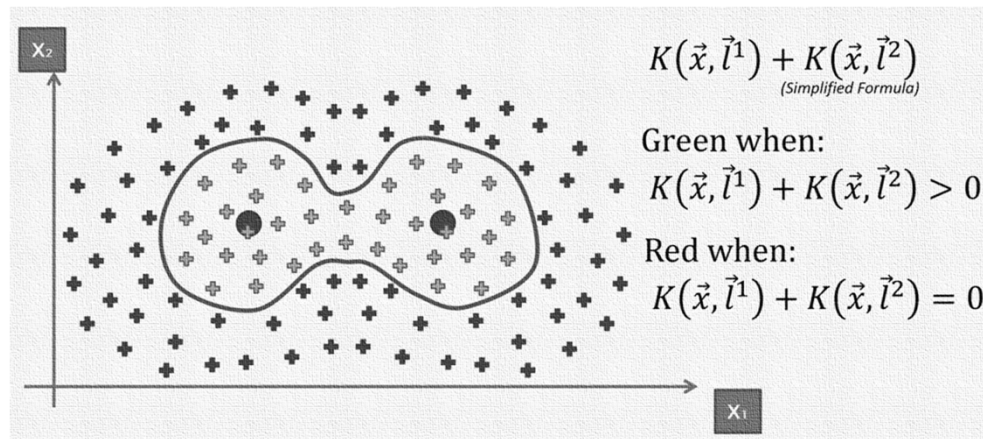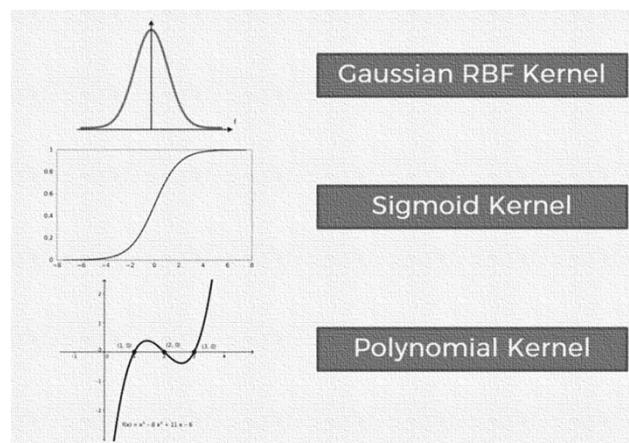
CONTD..

CONTD..
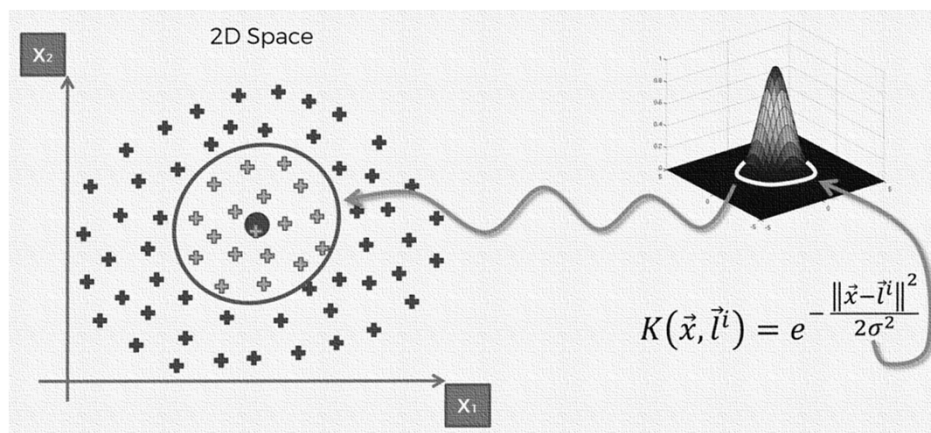
CONTD..

TYPES OF KERNEL FUNCTIONS

PYTHON CODE:

```python
# Fitting classifier to the Training set
from sklearn.svm import SVC
classifier = SVC(kernel='rbf', random_state=0) #gaussian kernel
classifier.fit(X_train, y_train)
```

VISUALIZATION

THANK YOU