Types of functions used in ML:

- Binary Step Function
- Linear Function
- Rectified Linear unit (ReLU)
- Leaky ReLU Activation Function
- Sigmoid Function
- Hyperbolic Tangent Activation Function(Tanh)
- Softmax Activation Function

Explanation:\

1. Binary Step Function:
   x= 0 or 1, value is decided to findout wether the output is active or not. f(x) = 1 if x > 0 else 0 if x < 0

2. Linear Function:
   Gives a wide range of activations and a line of a positive slope may increase the firing rate as the input rate increases.

3. Rectified Linear unit (ReLU):
   ReLU ranges from 0 to infinity, here the negative values are converted into zero. Drawback; Conversion is too fast to be mapped or fixed in the data.

4. Leaky ReLU Function:
   To resolve ReLU issue, here value close to zero is used.

5. Sigmoid Function:
   In order to get accuracy, sigmoid function is used oftenly between the range 0-1. f(x) = 1/(1+e(-x))

6. Hyperbolic Tangent Activation Function(Tanh):
   Like Sigmoid, this function also differentiates two classes. Also maps the negative values in the range between -1 to 1.

7. Softmax Activation Function:
   It is used at the end layer, input variable values depend on weights, whose sum is 1.

Library used for image analysis in ML:
Lib: OPenCV
Installation: pip install openCV-python
Author: Intel