DATA PREPROCESSING

DEEP LEARNING FUNDUS IMAGE ANALYSIS FOR EARLY DETECTION OF DIABETIC RETINOPATHY

In this milestone we will be improving the image data that suppresses unwilling distortions or enhances some image features important for further processing, although perform some geometric transformations of images like rotation, scaling, translation, etc.

1. **Importing The Libraries**
2. **Configure ImageDataGenerator Class**
3. **Apply ImageDataGenerator Functionality To Train Set And Test Set**

Import the ImageDataGenerator library

In [4]:
```
from tensorflow.keras.preprocessing.image import ImageDataGenerator
```

Configure ImageDataGenerator class

In [5]:
```
train_datagen = ImageDataGenerator(rescale=1./255,
                                   zoom_range=0.2,
                                   horizontal_flip=True)
test_datagen = ImageDataGenerator(rescale=1./255)
```

Apply ImageDataGenerator Functionality To Trainset And Testset

In [9]:
```
xtrain = train_datagen.flow_from_directory('/Malan/IBM Stuff/Project and Design Phase/Data Set/Data Set/DATA SET',
                                           target_size=(64,64),
                                           class_mode='categorical',
                                           batch_size=100)
```

```
Found 2626 images belonging to 5 classes.
```

In [10]:
```
xtest= test_datagen.flow_from_directory('/Malan/IBM Stuff/Project and Design Phase/Data Set/Data Set/DATA SET',
                                        target_size=(64,64),
                                        class_mode='categorical',
                                        batch_size=100)
```

```
Found 2626 images belonging to 5 classes.
```