# CHARACTER RECOGNITION PROJECT

Problem Statement:

Given an image of a hand-drawn Devanagari character, you have to recognize the character and display a 'text output' corresponding to that character on the screen.

For example, given the following image:

You must print to the screen the following text output that corresponds to the given character: क

Another example, given the following image:
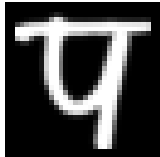
You must print to the screen the following text output that looks like the given character: प

Type the following commands in the terminal to run your code:

g++ -o recognizer main.cpp recognizer.cpp `pkg-config --cflags --libs opencv4`

./recognizer Devanagari-Dataset/Reference-Images/ Devanagari-Dataset/Testcases/char1.png

Here,
<dataset_path> is the directory path containing all the reference images of characters.
<test_image_path> is the test image file path

For example:

```
./recognizer Devanagari-Dataset/Reference-Images/
Devanagari-Dataset/Testcases/char1.png
```

1) The first g++ command will compile your code, link all required opencv files, headers, and finally provide you with an executable file named "recognizer"
2) In the second command,
    a) **./recognizer** implies running the executable file "recognizer"
    b) Next, **/home/Devanagari-Dataset/Reference-Images**/ is the directory containing all the reference images for Devanagari characters
    c) Lastly, **/home/Devanagari-Dataset/Testcases/char1.png** is the test image file path

If the provided test image is:

The following output is expected to be printed on the screen:
Character: क

You will be provided with the following Supporting Code Files:

- Reference Image Files will be provided
- Test Image Files will be provided for tallying the code output
- ReadME Doc for using opencv constructs: imread(), Mat Class
- Driver Code

Files to be Submitted:

- **recognizer.h**
  You need to declare Classes, their data members and methods, and/or any other methods if required.

- **recognizer.cpp**
  You need to implement the "recognize()" method and the methods mentioned in the recognizer.h file (if any).