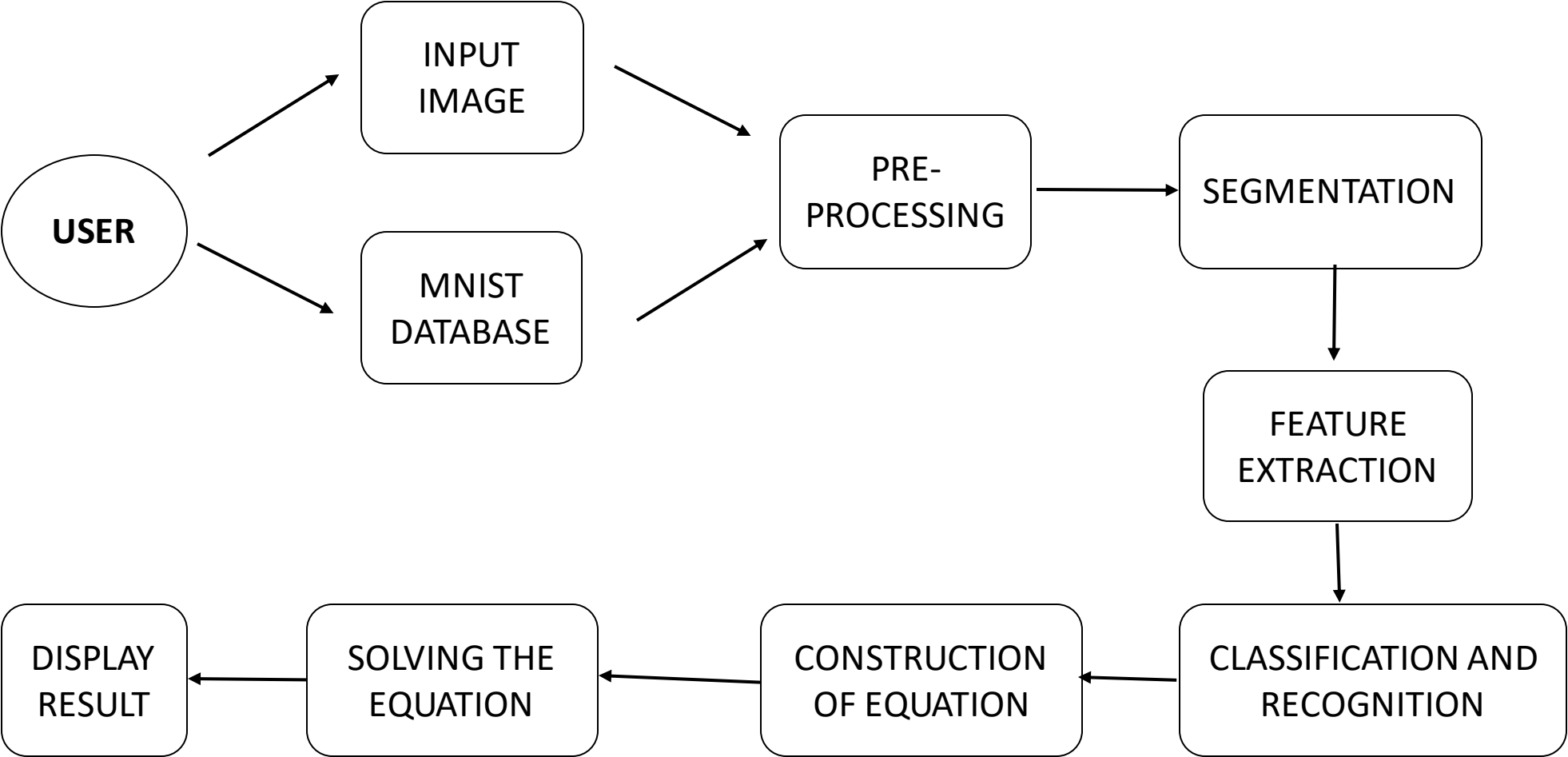


# HANDWRITTEN EQUATION SOLVER USING CNN

AKANKSHA THORAT- 111803108

DIVYA ALONE- 111803114

# BLOCK DIAGRAM



# PRE-PROCESSING

Various tasks are performed on image in this step.

1. GrayScale Conversion
2. Binarisation
3. Noise Filtering/Removal

# SEGMENTATION

- In Segmentation, the image is divided into multiple parts called sub-images. These sub-images are labelled further, usually with a unique number.
- Uses bounding-box method. It determines coordinates of the corners, dimensions of the height and width of the image.

# FEATURE EXTRACTION

- In this step, image is in form of a matrix and each kernel works as a feature identifier.
- It filters out the features from the image.

# CLASSIFICATION & RECOGNITION

- In this step, the extracted features are combined and defined using 3 classifiers:
  1. KNN
  2. RFC
  3. SVM

# EQUATION SOLVER

- After the detection, a proper equation is formed with the characters and it is further solved according to the operator recognised.