**Output Image-01:**

The 1st output image is negative transformation. Because we can see in the output image that all the colors from the input image are inverted in the output one. So the pixel values in the output image are inverted from the input one by mathematical function, s = L-1-r, where s is the final intensity and r is the initial intensity. So this produces a photographic negative. So this is photographic negative transformation.

**Output Image-02:**

The 2nd output image is contrast stretching transformation. We can understand this by analyzing the fact that, the darker portion of the image gets more darker and brighter ones get more brighter in the output image. We can match this fact with the graph of the contrast stretching. The contrast range of the output image is increased by the formula i\_max-i\_min/(i\_max+i\_min). So this is contrast stretching transformation.

**Output Image-03:**

The 3rd output image is logarithmic transformation. Because by analyzing the graph of log transformation we can understand that, the pixel values from the input image get amplified in the output one. So lower pixel values get more brighter. The higher pixel values get white but not as white as the lower ones. This is followed by the logarithmic curve. Mathematically, s = c\*log(1+r), here c is the scaling constant. So this is logarithmic transformation.

**Output Image-04:**

The 4th output image is gamma transformation. From analyzing the output image we can understand that, the intensity values have decreased as the output image got darker. Here the value of gamma is taken as more than 1 in the equation, s = (c\* r ^ gamma). Graphically this matches with the graphs of gamma transformation. So intensity values of bright ones as well as dark are decreased. Bright ones became dark and dark ones became darker in the output image. So this is gamma transformation.