

**Home Task # 3**  
**Digital Image Processing**  
**Gradient based Edge Detection**  
**No Submission**

Gradient operators are used to detect edges from intensity images. Gradient magnitude and angle help in identifying edges of different magnitude and having different phases respectively.

1. Use Sobel horizontal and vertical operators to compute horizontal and vertical gradients of following image. Then compute gradient magnitude and phase from these gradients. You are required to extract edges from this image which have strongest gradient response and which lie in a particular range of phase.
2. Use MATLAB Hough transform functions to extract all possible lines for given image
3. Read an ideal image containing edges and corners. Apply all corner detection algorithms (studied in lect-6) by yourself to detect all possible corners. Compare your results with MATLAB function for corner detection.

