

Question 1:

- .hdr (radiance) image



Question 1:

- .png after tone mapping (`cv2.createTonemapDurand(gamma=2.5)`)



Question 2:

- HDR radiance map (linearly mapping the whole dynamic range to display dynamic range)



Question 2:

- HDR radiance map (linearly mapping lower 0.1% of dynamic range to display dynamic range)



Notes:

Instead of writing here an explanation of the code itself, comments are included in the code (main.py and hdr.py) where we believed them being necessary.

However, in many parts, the code resembles the paper from Debevec, in fact, in some comments, we directly cite the chapters of the paper that were pretty much just translated from matlab into python (or from mathematical equations into python code).

The code flows as follow:

READ IMAGES -> READ EXPOSURE TIMES -> FOR EACH CHANNEL -> TAKE THE STACK OF IMAGES ->
RANDOMLY SAMPLE INTENSITY VALUES -> COMPUTE RESPONSE CURVE -> CALCULATE RADIANCE MAP
-> SAVE INTO OUTPUT