**COMP37212: Coursework 2 Mark Scheme**                    **Total (15 marks)**

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|---|---|
| 1. Implement python code for Harris Corner detector | 2 marks |
| 2. Use of reflective Image padding | 1 mark |
| 3. Calculate the $I_{x_p}$ and $I_{y_p}$ partial image derivatives (with respect to x and y) at point *p* using the sobel operator, and also the corresponding $I_{x_p}^2, I_{y_p}^2, I_{x_p}I_{y_p}$ values. | 2 marks |
| 4. Find corner response *c(M)* for every image pixel (using a Gaussian window) | 2 marks |
| 5. Find strong *interest points* via thresholding and local maxima operations. Plot graph of interest point (keypoint) numbers vs threshold values. | 2 marks |
| 6. Calculate ORB Local features (using ORB descriptor) for your detected interest points. Compare with build-in ORB features. | 2 marks |
| 7. Implement sum of squared distances to measure Local Feature similarity and ratio test to discard points that will give ambiguous matches. | 2 marks |
| 8. Comments and observations | 2 mark |