BIL103E Image Processing Topic Headings

Note:

If you don't understand what something in these notes means, it is your job to find out.

- Raster images vs. vector images.
- Pixels.
  - Image size.
  - Image file size.
  - Resolution.
- Colour:
  - Colour depth.
    - 1-bit, black and white.
    - 8-bit, greyscale.
    - 24-bit, RGB.
    - Calculating the number of colours possible.
  - Indexed colour.
  - RGB decimal, hex representations.
  - Additive vs. subtractive colour.
  - RGB vs. CMYK.
- Raster images:
  - Compression: lossless, lossy, formats.
    - Run Length Encoding.
  - Formats: BMP, GIF, JPEG, PNG.
  - Image – bitstring conversion (BMP or raw data example).
  - Basic operations (GIMP):
    - Scale.
    - Resize.
    - Export.
    - Flip.
    - Rotate.
    - Crop.
    - Brightness.
    - Filters (e.g. blur, edge detection).
    - Selection (square, fuzzy,). Cut & paste & move.
    - Image properties & metadata.
    - Brushes & colour selection, colour picking.

- Vector Images:
  - Vector formats: SVG, PDF.
  - Shape objects & paths.
  - Basic Operations (Inkscape):
    - Simple shapes: Rectangles, circles.
    - Simple paths: Line, curve.
    - Editing points on a path.
    - Fill colour & stroke colour and thickness.
    - Align and distribute operations.
    - Raise/lower operations.
    - Rendering vector to bitmap.
    - Extra / not covered in all sections:
      - Editing shape parameters.
      - Converting a (shape) object to a path.
      - Ctrl and shift modifiers when creating objects.
      - Using path set operations like intersection.
      - Trace bitmap.