Darwin Library Installation Instruction for AVAToL leaf project (MACOS)

1. Code libraries we need.

- **Darwin:**
- **Essential software:**
  - Xcode develop tools
  - wget
  - Eigen
  - pkg-config(version 0.25)
  - cmake(for opencv)
- **Optional software:**
  -OpenCV(2.4.9)
- **Helpful software:**
  -brew

2. Detailed installation steps.

- Download Darwin (release 1.8) and decompress to the location $DARWIN: *http://drwn.anu.edu.au/drwnDownloadsDoc.html* (make sure 'external' folder is directly under the parent folder $DARWIN)
- Install the essential softwares: (**Terminal command**: cd $DARWIN/external)
  - **Xcode**:
    Download and install in APP STORE for free.
  - **Homebrew: (copy this in terminal)**
    ruby -e "$(curl -fsSL https://raw.github.com/Homebrew/homebrew/go/install)"
  - **Wget: (terminal command)**
    brew install wget
  - **Pkg-config: (terminal command)**
    brew install pkg-config
  - **Cmake: (terminal command)**
    curl -O http://www.cmake.org/files/v3.0/cmake-3.0.0.tar.gz
    tar zxvf cmake-3.0.0.tar.gz
    cd cmake-3.0.0
    ./bootstrap
    make
    sudo make install
  - **Eigen: (Using script)**
    cd $DARWIN/external
    ./install.sh Eigen
- Install Optional software.
  - **OpenCV: (Using script)**
    cd $DARWIN/external

./install.sh OpenCV

Hint: after these installation, check that if there are two extra folders called 'Eigen' and 'opencv' have been added to $DARWIN/external/. If they are there, then Eigen and OpenCV are ready to go.

- Update DYLD_LIBRARY_PATH to avoid runtime errors: **(terminal command)**

```
export DYLD_LIBRARY_PATH=${DYLD_LIBRARY_PATH}:${DARWIN}/external/opencv/lib
```

3. Compile the code libraries and Segmentation project.

- Compile Darwin main framework: **(terminal command)**

  cd $DARWIN

  make

  make drwnprojs

Hint: If you see some executables (such as grabCut, testDarwinIO, etc) are generating in $DARWIN/bin, then it is successfully compiling the Darwin main framework

- Compile Darwin segmentation project: **(terminal command)**

  cd $DARWIN/projects/multiSeg

  make

Hint: Still, If you see some other executables (such as learnPixelSegModel, inferPixelLabels, scorePixelLabels) are generating in $DARWIN/bin, then it is successfully compiling the segmentation module