

Today we'll have a hands-on lab to familiarizing you with JES's picture functions, so **pairs of students** should get a laptop from the cart. (NOTE: laptops are numbered and plugged-in in back -- plug-in and put away in their proper spot)

Download to the Desktop and extract the files needed for the lab from:

<http://www.cs.uni.edu/~fienup/cs1120s15/sessions/s05/lec5.zip>

Part A: Load the below program using the File | Open Program menu option and selecting `pirateWithFns.py` from the `lec5` folder you put on the Desktop.

```
""" Program to turn the barbara.jpg picture into a pirate """
def main():
    print "Select the Media Folder"
    setMediaFolder()
    print "Select the picture (.jpg) file"
    fileName = pickAFile()
    pict = makePicture(fileName)

    drawEyePatch(pict, gray)
    blackenTeeth(pict)
    drawHat(pict, black)
    drawEarring(pict, yellow)

    openPictureTool(pict) # Picture Tool aids in determining x,y coordinates and colors
    show(pict)

    newFileName = getMediaPath("barbaraPirate.jpg")
    writePictureTo(pict, newFileName)

def drawEyePatch(pict, patchColor):
    # draw eye patch of specified color
    addOvalFilled(pict, 133, 98, 30, 20, patchColor)
    addLine(pict, 53, 69, 179,117, patchColor)
    addLine(pict, 53, 70, 179,118, patchColor)
    addLine(pict, 53, 71, 179,119, patchColor)
    addLine(pict, 53, 72, 179,120, patchColor)
    addLine(pict, 53, 73, 179,121, patchColor)

def blackenTeeth(pict):
    """ blacken teeth """
    # < add your code here >

def drawEarring(pict, ringColor):
    """ draw gold earring """
    # < add your code here >

def drawHat(pict, hatColor):
    addArcFilled(pict, 62, 2, 100, 140, 0, 180,hatColor)
    addArc(pict, 10, 40, 200, 100, 30, 120, hatColor)

    ...

main() # start program running
```

Run the program by clicking the "Load Program" button below the "Program" area.

- In the Choose Media Path pop-up, navigate to `lec5` folder on the Desktop, then click Open.
- In the Pick A File pop-up, select `barbara.jpg` file, then click Open. (or double-click on file)

The modified picture created is shown and saved to `barbaraPirate.jpg`. Your job is to complete the `blackenTeeth` and `drawEarring` functions by adding calls to the shape-drawing functions described in the JES Functions | Pictures menu. Use the Picture Tool version to aid in determining x,y coordinates.

After you complete Part A, raise your hand and demonstrate your program.