

# Python: Modifying Pictures Using Loops

# Review

- JES command area – program area
- Defining/using functions  
specifying a sequence of steps for what the function should do.
- JES Functions for file manipulation **JES->Files**
- JES Functions for interacting with user **JES-->Input/Output**
- JES Functions for picture manipulation **JES-->Pictures**

# Reminder: Manipulating Pictures

```
>>> pic1 = makeEmptyPicture(200,100)
```

```
>>> show(pic1)
```

```
>>> setAllPixelsToAColor(pic1, red)
```

```
>>> show(pic1)
```

```
>>> addText(pic1,30,50,"hello")
```

- *similarly can add rectangles, lines, etc.*