1. Write a function called `saveSensors` which takes an integer parameter, `n`. The function should store `n` light sensor readings from the robot in a list. The function should return the list. Light sensor readings can be obtained by using the function `getLight("center")`.

```python
def saveSensors(n):
    lightList = []
    for i in range(n):
        lightList.append(getLight("center"))
    return lightList
```

2. Write a function which takes an integer, `n`, as a parameter. It that will print the numbers 1,2,3...n in that order. You must use only a FOR loop. When you have that working, re-write the function to use only a WHILE loop.

3. What is printed when the following code is executed?

```python
l = ["open", "close", "in", "out", "up", "down"]
for i in range(0,6,2):
    print l[i]
```

   `open`
   `in`
   `up`

4. Assume `turn90degrees()` has been defined as below so that the robot turns 90 degrees to the right. Assume `nudge(x)` has been defined to move the robot forward `x` units.

```python
def turn90degrees():
    turnRight(1,1)

def nudge(x):
    forward(1,x)
```

The following code makes the robot draw the trajectory on the right.

```python
nudge(1)
turn90degrees()
nudge(1)
nudge(2)
```
Draw the robot's trajectory when the following code is executed. Label the length of each move (nudge) using numbers as in the above example.

```
turns = [2, 6]

for index in [2, 2, 6, 2, 1]:
    if index in turns:
        turn90degrees()
        nudge(index + 1)
```

**Assuming robot starts facing north (up):**

![Diagram](image.png)
5. The following code has been executed in IDLE. For each print statement below, write what should be printed.

```python
given_code = 
">>> mylist = ["Hello", 88.5, 100, "cs190"]
>>> print len(mylist)
4
>>> print mylist[0]
Hello
>>> print mylist[len(mylist)]
Error: Index out of range
>>> print mylist[2:]
[100,cs190]
>>> print mylist[0:2]
["Hello", 88.5]
>>> mylist.append(140)
>>> print mylist
["Hello", 88.5, 100, "cs190", 140]
>>> mylist[0] = 4
>>> mylist[3] = 200
>>> print mylist
[4, 88.5, 100, 200, 140]
>>> mylist.sort()
>>> print mylist
[4, 88.5, 100, 140, 200]
>>> mylist.reverse()
>>> print mylist
[200, 140, 100, 88.5, 4]
```

6. Examine the following code. Draw a sketch of what would be shown on-screen if the draw function were called.

```python
def draw():
    pic = takePicture()
    for x in range(getHeight(pic)):
        for y in range(0, getHeight(pic)):
            pix = getPixel(pic, x, y)
            if x == y:
                setRed(pix, 0)
                setGreen(pix, 0)
                setBlue(pix, 0)
    show(pic)
```

Obviously, the picture would have a background, etc. when taken from the robot.
7. Act like the python interpreter and "run" the following program. What does this program print?

```python
def fun1(x):
    print "Fun1 x:", x
    return x * 2

print "Start"
y = fun1(10)
if (5 > y):
    print y
elif (15 > y):
    print y + 10
elif (25 > y):
    print y + 100
elif (35 > y):
    print y + 1000
else:
    print y + 10000

print "End"
```

Start
Fun1 x: 10
120
End