Exercise #1

Displaying Sensor Values on the NXT Screen

Examine with a partner what you think the following code will do. Be specific. Then enter the code, compile and download.
You will have to activate the light sensor before you compile and download

```
task main()
{
	wait1Msec(3000);	//initialize sensor
	eraseDisplay();

	while(true)		//Loop forever

	{
		nxtDisplayBigTextLine(2,"%d",SensorValue[S1]);
		wait1Msec(500);
		eraseDisplay();
	}
}
```

Try adding some or all of the following lines to your Code See what it does

```
nxtDisplayCenteredTextLine(2, " %d ", SensorValue(S1));
nxtDisplayCenteredTextLine(4, "Searching");
nxtDisplayCenteredTextLine(5, "For Black.");
```

Use RobotC help for extra info. Google: RobotC help

Assignment#3

Practice with Light sensors
SEARCHING FOR GOLD! *(for marks)*

Come up with a program that will beep or make noise when the color sensor "sees" the color **black** (*you must use an **if or while statement*** in your program).
Have the display flash "Searching for Black" on the nxt while it is not reading black.

Helpful Hints:

1. Your program must have a condition that allows the computer to determine what is "black" to the color sensor Example:

   If (SensorValue[WalzlLight] < 400)

2. Before you write your program, write a preliminary program that displays the ambient color sensor reading in "real-time*" (displays an updated reading of the ambient color sensor every half second).* **This way you can first determine what readings will appear when the color sensor is over a black space.**

3. Use the syntax below to help you get your NXT to make sounds:

PlayTone(frequency, durationIn10MsecTicks);
Plays a constant tone at the specified frequency and duration.

Example:

PlayTone(784, 15); // Play a tone at a frequency of 784 for 150 milliseconds.

Or

PlaySoundFile(sFileName);
Plays a sound file from the NXT file system. File must be present on the NXT.

Example:

PlaySoundFile("Woops.rso"); // Play the sound file, 'Woops.rso'.

For more information on any RobotC syntax, Search:
http://www.robotc.net/support/nxt/MindstormsWebHelp/

Marking: 1. Show me that your "Gold-Finder" works. 2. Hand in your code. **5 marks each**.