

## Stitching Code Method

**Libraries** are added, which look like:

```
#include <name_of_library.h>
```

**Variable** are defined by using data types, which usually start by:

```
int name_of_variable = 2;  
char name_of_newVariable;  
float name_of_variables;  
long name_of_moreVariables;
```

```
void setup(){
```

- This section of the code only runs once
- Place table headers within this section
- Place functions that need to initialize the sensors only once

```
}
```

```
void loop(){
```

- This section of the code runs over and over
- Place sensor functions within this section
- Place print statements within this section of the code

```
}
```

**Functions** are easy to create and extremely useful. Functions usually begin with a **data-type** such as void, int, float. Choose the data type that will correspond to the type of value that you'd like to receive. See below for data types.

```
float name_of_function(){
```

- This is where the meat of the operation should live, such as getData(), poll(), and other functions that allow you to collect the data.
- Once you've collected data, you can then use it to convert it, calibrate it or even call it within another function for further processing.
- If you'd like the function to equal a value once it has been recalculated, and recalibrated, your function should end with a **return** statement.

```
}
```

**Libraries** – Copy and Paste all libraries to this section

**Variables** – Copy and Paste all variable in this section

**Setup()** – call the initializing function in the setup section

**Loop()** – call the function that provides values from your sensor using print statements

**function\_name()** – paste the functions used for each sensor

**Example:** Calculate the area of a circle

```
float CircleArea()  
{  
    float result;  
    float result = 3.141592654 * radius * radius;  
    return result;  
}
```

### Data Types

```
void  
boolean (0, 1, false, true)  
char (e.g. 'a' -128 to 127)  
unsigned char (0 to 255)  
byte (0 to 255)  
int (-32,768 to 32,767)  
unsigned int (0 to 65535)  
word (0 to 65535)  
long (-2,147,483,648 to  
2,147,483,647)  
unsigned long (0 to 4,294,967,295)  
float (-3.4028235E+38 to  
3.4028235E+38)  
double (currently same as float)  
sizeof(myint) // returns 2 bytes
```

**Data Types** are used to characterize the type of data a particular variable or function shall use.

Example

- if you are interested in obtaining a whole number from a calculation or a sensor you would use **int**, which stands for integer.
- If you are interested in obtaining a number with decimals and much more precision, you would use **float**.