**Integrated Development Environment**

1. List five main features of a software integrated development environment (IDE)

Error checks

Code

Upload

Examples

serial port

1. For each main feature listed in #1 above, explain the feature and how the Arduino Create environment provides this feature.

Error checks-The program will highlight the error in the code ,so the user can their mistakes

Code-allows the user to create and edit code for the areudino program

Upload-will upload code to the bread. Will perform an task depending on the code and materials on the breadboard

Examples-allows for you to access examples of other programs

serial port-allows to use to input words and numbers into the program and your breadboard will respond

**Version Control System**

1. List five main features of a software version control system.

Storage

Access

Sharing

History

Recovery

1. For each main feature listed in #3 above, explain the feature and how the GitHub environment provides this feature.
2. Storage-allows you to store your files in one repository
3. Access-you access and see your work at any time.
4. Sharing- Allows for you to share your files to different people. This is indeed an cruel feature to share your work to the world. So your work can be marked.
5. History-allows you to see your past work.
6. Recovery –in case you lost an previous file you locate it again
7. Explain any version control features that we have not made use of in the class so far but that would be useful in the future.

Recovery-say we are organizing our projects and we lose one we can go back and relocate the lost file

**Programming Errors**

1. Define and explain a “syntax error” when programming code.

a character or string incorrectly placed in a command or instruction that causes a failure in execution.

1. Create a sample Arduino program that has a syntax error. Answer this question by copying and pasting your sample code below and by providing an explanation.

void loop() {;

there is not supposed to be an semi-colon after the loop opens

1. Define and explain a “runtime error” when programming code.

Runtime is when there is an error while the program is running. Will not result in an logic error since it won’t start

1. Create a sample Arduino program that has a runtime error. Answer this question by copying and pasting your sample code below and by providing an explanation.

while((millis() - elapsedTimeUntilNow) / 1000 < runFor){

Run for was not declared/no information was given in the void setup this will result in the program not working.

1. Define and explain a “logic error” when programming code.

Is when there is error but since there’s no syntax error it will have and result that you do not desire.

1. Create a sample Arduino program that has a logic error. Answer this question by copying and pasting your sample code below and by providing an explanation.

void setup() {

pinMode(led, OUTPUT);

pinMode(speaker, OUTPUT);

pinMode(aluminumFoil, INPUT);

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Serial.begin(9600);

}

There will be an output since you did not say for it to be high or low it will not do neither but there is no syntax error.