



Programming, Serial and Virtual Prototyping

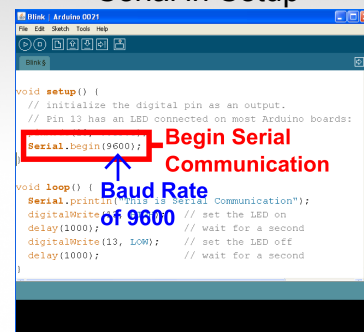
Code

```
if ( You like semicolons ) {  
  Stay here for intro to Arduino code  
}  
  
else {  
  Join the MODKit group for GUI code  
}
```

Serial Communication

Serial Communication is the transferring and receiving of information between two machines, the Arduino dedicates pin # 0 to receiving information and pin 1 to transferring information

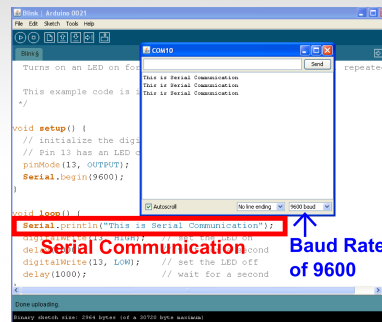
Serial in Setup

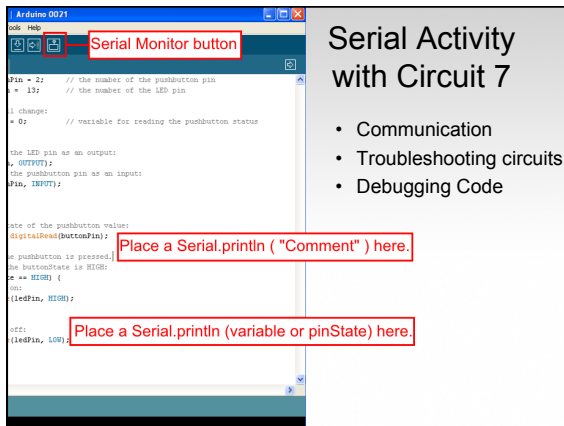


Serial Monitor



Serial Communication





Serial Activity with Circuit 7

- Communication
- Troubleshooting circuits
- Debugging Code

Serial Communication: Serial Setup

```
void setup ( ) {
  Serial.begin ( 9600 ) ;
}
```

In this case the number 9600 is the baudrate at which the computer and Arduino communicate

Serial Communication: Sending a Message

```
void loop ( ) {
  Serial.print ( "Constructivism & " ) ;
  Serial.println ( "Mechatronics" ) ;
}
```

Serial Communication: Serial Debugging

```
void loop ( ) {
  int xVar = 10 ;
  Serial.print ( "Variable xVar is " ) ;
  Serial.println ( xVar ) ;
}
```

Serial Communication: Serial Troubleshooting

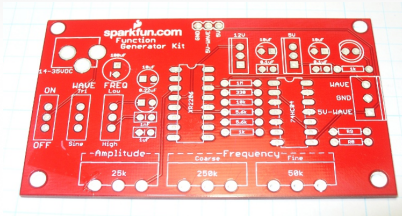
```
void loop ( ) {
  Serial.print ( "Digital pin 9 reads " ) ;
  Serial.println ( digitalRead ( 9 ) ) ;
}
```

Serial Communication: Circuit 7 code

```
void loop ( ) {
  buttonState = digitalRead(inputPin);
  if (buttonState== HIGH){
    digitalWrite (ledPin, LOW)
  }
  else {
    digitalWrite(ledPin, HIGH);
    Serial.print ("button state is ");
    Serial.println ( buttonState );
  }
}
```

Fritzing

Now that you feel comfortable putting together circuits with your breadboard let's talk about how to go from the breadboard to a PCB



Free Time

The rest of the class is dedicated to free pursuit

Do whatever you like and an instructor will help you with any questions or problems you may have, this includes questions about personal projects using Arduino

Thank you for attending our Intro to Arduino class

Please fill out a class feedback form before you leave

Questions?



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