

Lecture 20 Worksheet

1. BPS stands for Band Pass Filter when referring to carrier frequencies.
True/False
2. A preamplifier makes a recieved signal smaller so it is easier to read.
True/False
3. Blocking out interfering signals is the main goal of IR modulation
True/False
4. Infrared waves are not visible to humans.
True/False
5. Which of the following generates/emits IR waves? Highlight all that apply.
 1. Picture Frame
 2. Cats
 3. Sun
 4. Soldering Iron
 5. Coat Hanger
6. Which directive is used to import a header file into your C code so you may use a library?
 1. #define
 2. #ifdef
 3. #include
 4. #library
7. At what frequency are you modulating the transmission from your lab kit IR remote?
38kHz
8. Write a nested if statement required to detect a 1 or a 2 from your lab kit remote. If a 1 is recieved, write a 1 to a variable named `read_data`. If it is a 2, write a 2 to `read_data`. If any other number is recieved, write a 0 to `read_data`.

```
1  #include <IRremote.h>
2  #define IR_RECV_PIN A3
3  IRrecv irrecv(IR_RECV_PIN);
4  decode_results IR_command_recieved;
5  int read_data;
6  void setup(){
7
8  }
9
10 void loop(){
11     if(irrecv.decode(&IR_command_received)){
12         if (IR_command_recieved.value == ONE) read_data = 1;
13         else if (IR_command_recieved.value == TWO) read_data = 2;
14         else read_data = 0;
15     }
16 }
```