

EXPERIMENT 5

1.

```
int f = 13;
```

```
int g = 12;
```

```
int e = 11;
```

```
int d = 10;
```

```
int c = 9;
```

```
int b = 8;
```

```
int a = 7;
```

```
void setup()
```

```
{
```

```
  pinMode(f, OUTPUT);
```

```
  pinMode(g, OUTPUT);
```

```
  pinMode(e, OUTPUT);
```

```
  pinMode(d, OUTPUT);
```

```
  pinMode(c, OUTPUT);
```

```
  pinMode(b, OUTPUT);
```

```
  pinMode(a, OUTPUT);
```

```
}
```

```
void loop()
```

```
{
```

}



2.

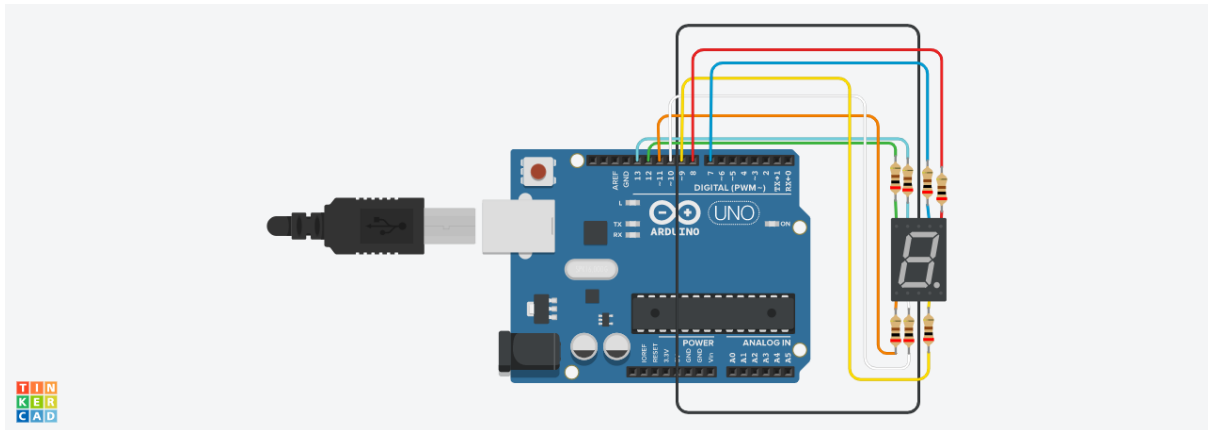
```
void setup()
```

```
{  
  for (int i = 13; i>=7;i--)  
  {  
    pinMode(i, OUTPUT);  
  }  
}
```

```
}
```

```
void loop()
```

```
{  
  for (int i = 13; i>=7;i--)  
  {  
    digitalWrite(i, HIGH);  
    delay(500);  
  }  
  for (int i=7; i<=13; i++){  
    digitalWrite(i,LOW);  
    delay(500);  
  }  
}
```



3.

```
int f = 13;
```

```
int g = 12;
```

```
int e = 11;
```

```
int d = 10;
```

```
int c = 9;
```

```
int b = 8;
```

```
int a = 7;
```

```
void setup()
```

```
{
```

```
  pinMode(f, OUTPUT);
```

```
  pinMode(g, OUTPUT);
```

```
  pinMode(e, OUTPUT);
```

```
  pinMode(d, OUTPUT);
```

```
  pinMode(c, OUTPUT);
```

```
  pinMode(b, OUTPUT);
```

```
  pinMode(a, OUTPUT);
```

```
}
```

```
void zero()
{
    digitalWrite(g, 1);
    digitalWrite(f, 0);
    digitalWrite(e, 0);
    digitalWrite(d, 0);
    digitalWrite(c, 0);
    digitalWrite(b, 0);
    digitalWrite(a, 0);
}
```

```
void one()
{
    digitalWrite(f, 1);
    digitalWrite(g, 1);
    digitalWrite(e, 1);
    digitalWrite(d, 1);
    digitalWrite(a, 1);
    digitalWrite(b, 0);
    digitalWrite(c, 0);
}
```

```
void two()
{
    digitalWrite(f, 1);
    digitalWrite(c, 1);
    digitalWrite(a, 0);
```

```
    digitalWrite(b, 0);  
    digitalWrite(g, 0);  
    digitalWrite(e, 0);  
    digitalWrite(d, 0);  
}  
void three()  
{  
    digitalWrite(e, 1);  
    digitalWrite(f, 1);  
    digitalWrite(a, 0);  
    digitalWrite(b, 0);  
    digitalWrite(g, 0);  
    digitalWrite(c, 0);  
    digitalWrite(d, 0);  
}  
void four()  
{  
    digitalWrite(f, 0);  
    digitalWrite(g, 0);  
    digitalWrite(e, 1);  
    digitalWrite(d, 1);  
    digitalWrite(c, 0);  
    digitalWrite(b, 0);  
    digitalWrite(a, 1);  
}  
void five()
```

```
{  
    digitalWrite(f, 0);  
    digitalWrite(g, 0);  
    digitalWrite(e, 1);  
    digitalWrite(d, 0);  
    digitalWrite(c, 0);  
    digitalWrite(b, 1);  
    digitalWrite(a, 0);  
}
```

```
void six()
```

```
{  
    digitalWrite(f, 0);  
    digitalWrite(g, 0);  
    digitalWrite(e, 0);  
    digitalWrite(d, 0);  
    digitalWrite(c, 0);  
    digitalWrite(b, 1);  
    digitalWrite(a, 0);  
}
```

```
void seven()
```

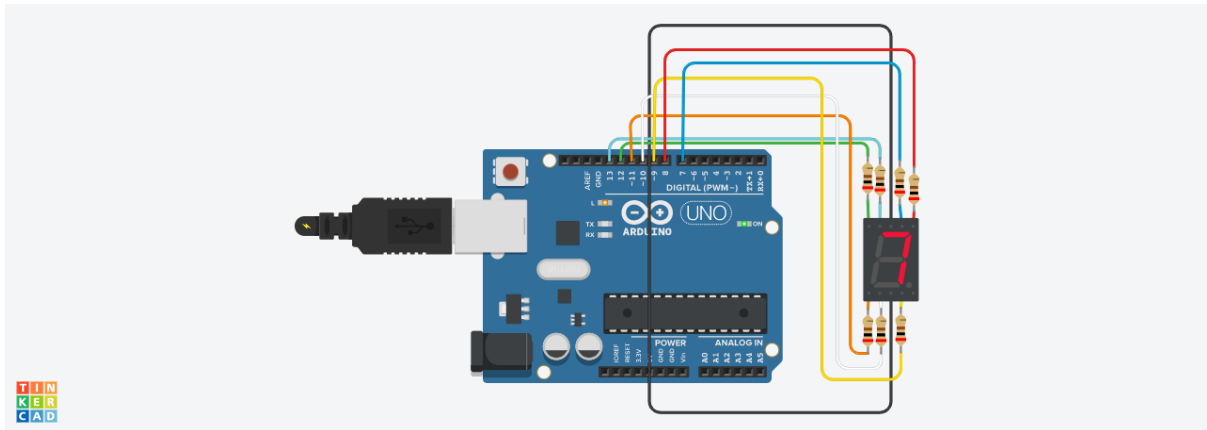
```
{  
    digitalWrite(f, 1);  
    digitalWrite(g, 1);  
    digitalWrite(e, 1);  
    digitalWrite(d, 1);  
    digitalWrite(c, 0);  
}
```

```
    digitalWrite(b, 0);
    digitalWrite(a, 0);
}
void eight()
{
    digitalWrite(f, 0);
    digitalWrite(g, 0);
    digitalWrite(e, 0);
    digitalWrite(d, 0);
    digitalWrite(c, 0);
    digitalWrite(b, 0);
    digitalWrite(a, 0);
}
void nine()
{
    digitalWrite(f, 0);
    digitalWrite(g, 0);
    digitalWrite(e, 1);
    digitalWrite(d, 0);
    digitalWrite(c, 0);
    digitalWrite(b, 0);
    digitalWrite(a, 0);
}

void loop()
```



```
{  
  zero();  
  delay(1000);  
  one();  
  delay(1000);  
  two();  
  delay(1000);  
  three();  
  delay(1000);  
  four();  
  delay(1000);  
  five();  
  delay(1000);  
  six();  
  delay(1000);  
  seven();  
  delay(1000);  
  eight();  
  delay(1000);  
  nine();  
  delay(1000);  
}
```



4.

```
int f = 13;
```

```
int g = 12;
```

```
int e = 11;
```

```
int d = 10;
```

```
int c = 9;
```

```
int b = 8;
```

```
int a = 7;
```

```
void setup()
```

```
{
```

```
  pinMode(f, OUTPUT);
```

```
  pinMode(g, OUTPUT);
```

```
  pinMode(e, OUTPUT);
```

```
  pinMode(d, OUTPUT);
```

```
  pinMode(c, OUTPUT);
```

```
  pinMode(b, OUTPUT);
```

```
  pinMode(a, OUTPUT);
```

```
}
```

```
void write_a()
{
    digitalWrite(g, 0);
    digitalWrite(f, 0);
    digitalWrite(e, 0);
    digitalWrite(d, 1);
    digitalWrite(c, 0);
    digitalWrite(b, 0);
    digitalWrite(a, 0);
}
```

```
void write_b()
{
    digitalWrite(f, 0);
    digitalWrite(g, 0);
    digitalWrite(e, 0);
    digitalWrite(d, 0);
    digitalWrite(a, 0);
    digitalWrite(b, 0);
    digitalWrite(c, 0);
}
```

```
void write_c()
{
    digitalWrite(f, 0);
    digitalWrite(c, 1);
    digitalWrite(a, 0);
}
```

```
    digitalWrite(b, 1);
    digitalWrite(g, 1);
    digitalWrite(e, 0);
    digitalWrite(d, 0);
}

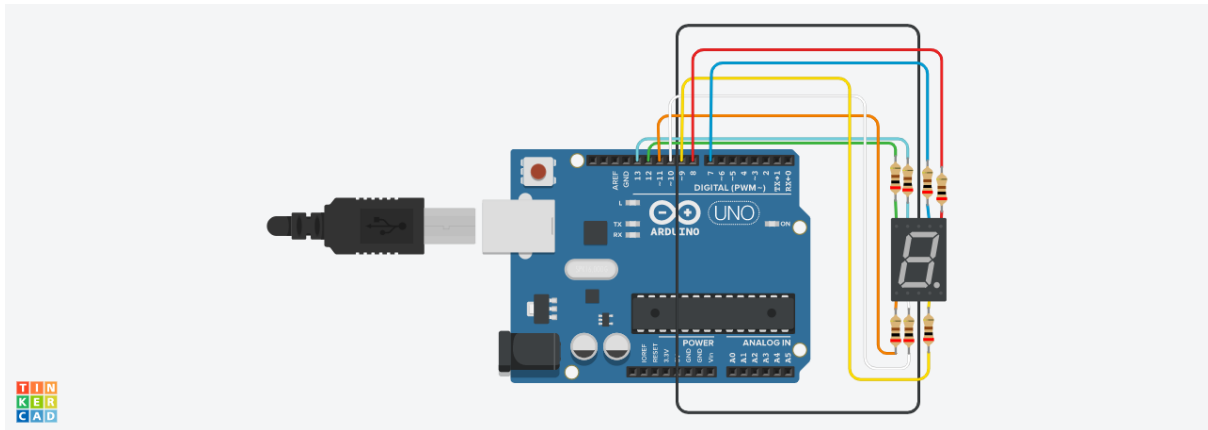
void write_d()
{
    digitalWrite(e, 0);
    digitalWrite(f, 0);
    digitalWrite(a, 0);
    digitalWrite(b, 0);
    digitalWrite(g, 1);
    digitalWrite(c, 0);
    digitalWrite(d, 0);
}

void write_e()
{
    digitalWrite(f, 0);
    digitalWrite(g, 0);
    digitalWrite(e, 0);
    digitalWrite(d, 0);
    digitalWrite(c, 1);
    digitalWrite(b, 1);
    digitalWrite(a, 0);
}

void write_f()
```

```
{  
    digitalWrite(f, 0);  
    digitalWrite(g, 0);  
    digitalWrite(e, 0);  
    digitalWrite(d, 1);  
    digitalWrite(c, 1);  
    digitalWrite(b, 1);  
    digitalWrite(a, 0);  
}
```

```
void loop()  
{  
    write_a();  
    delay(1000);  
    write_b();  
    delay(1000);  
    write_c();  
    delay(1000);  
    write_d();  
    delay(1000);  
    write_e();  
    delay(1000);  
    write_f();  
    delay(1000);  
}
```



5.

```
int f = 13;
```

```
int g = 12;
```

```
int e = 11;
```

```
int d = 10;
```

```
int c = 9;
```

```
int b = 8;
```

```
int a = 7;
```

```
void setup()
```

```
{
```

```
  pinMode(f, OUTPUT);
```

```
  pinMode(g, OUTPUT);
```

```
  pinMode(e, OUTPUT);
```

```
  pinMode(d, OUTPUT);
```

```
  pinMode(c, OUTPUT);
```

```
  pinMode(b, OUTPUT);
```

```
  pinMode(a, OUTPUT);
```

```
  pinMode(A0, INPUT);
```

```
}
```

```
void zero()
```

```
{
```

```
    digitalWrite(g, 1);
```

```
    digitalWrite(f, 0);
```

```
    digitalWrite(e, 0);
```

```
    digitalWrite(d, 0);
```

```
    digitalWrite(c, 0);
```

```
    digitalWrite(b, 0);
```

```
    digitalWrite(a, 0);
```

```
}
```

```
void one()
```

```
{
```

```
    digitalWrite(f, 1);
```

```
    digitalWrite(g, 1);
```

```
    digitalWrite(e, 1);
```

```
    digitalWrite(d, 1);
```

```
    digitalWrite(a, 1);
```

```
    digitalWrite(b, 0);
```

```
    digitalWrite(c, 0);
```

```
}
```

```
void two()
```

```
{
```

```
    digitalWrite(f, 1);
```

```
    digitalWrite(c, 1);
```

```
    digitalWrite(a, 0);  
    digitalWrite(b, 0);  
    digitalWrite(g, 0);  
    digitalWrite(e, 0);  
    digitalWrite(d, 0);  
}  
void three()  
{  
    digitalWrite(e, 1);  
    digitalWrite(f, 1);  
    digitalWrite(a, 0);  
    digitalWrite(b, 0);  
    digitalWrite(g, 0);  
    digitalWrite(c, 0);  
    digitalWrite(d, 0);  
}  
void four()  
{  
    digitalWrite(f, 0);  
    digitalWrite(g, 0);  
    digitalWrite(e, 1);  
    digitalWrite(d, 1);  
    digitalWrite(c, 0);  
    digitalWrite(b, 0);  
    digitalWrite(a, 1);  
}
```



```
void five()
{
    digitalWrite(f, 0);
    digitalWrite(g, 0);
    digitalWrite(e, 1);
    digitalWrite(d, 0);
    digitalWrite(c, 0);
    digitalWrite(b, 1);
    digitalWrite(a, 0);
}
```

```
void six()
{
    digitalWrite(f, 0);
    digitalWrite(g, 0);
    digitalWrite(e, 0);
    digitalWrite(d, 0);
    digitalWrite(c, 0);
    digitalWrite(b, 1);
    digitalWrite(a, 0);
}
```

```
void seven()
{
    digitalWrite(f, 1);
    digitalWrite(g, 1);
    digitalWrite(e, 1);
    digitalWrite(d, 1);
```

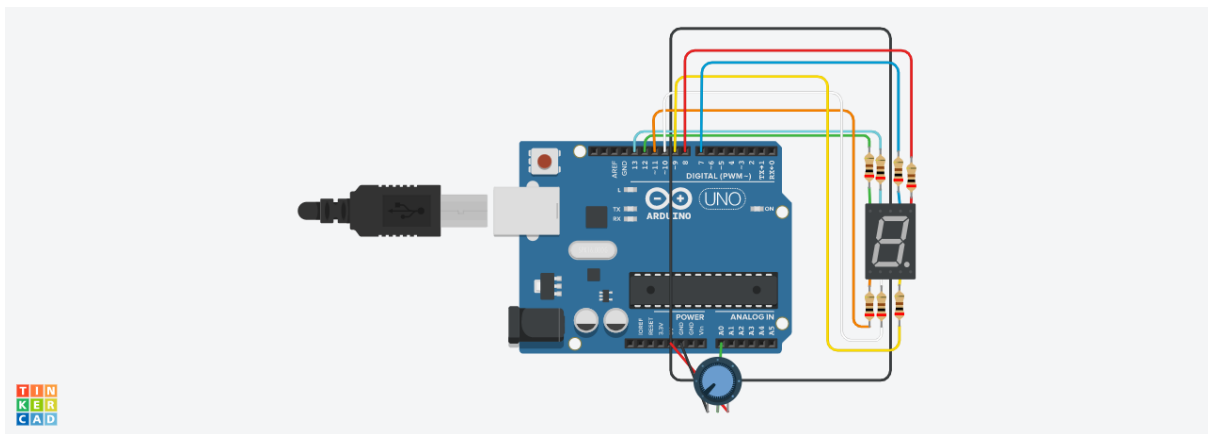
```
    digitalWrite(c, 0);  
    digitalWrite(b, 0);  
    digitalWrite(a, 0);  
}  
  
void eight()  
{  
    digitalWrite(f, 0);  
    digitalWrite(g, 0);  
    digitalWrite(e, 0);  
    digitalWrite(d, 0);  
    digitalWrite(c, 0);  
    digitalWrite(b, 0);  
    digitalWrite(a, 0);  
}  
  
void nine()  
{  
    digitalWrite(f, 0);  
    digitalWrite(g, 0);  
    digitalWrite(e, 1);  
    digitalWrite(d, 0);  
    digitalWrite(c, 0);  
    digitalWrite(b, 0);  
    digitalWrite(a, 0);  
}
```

```
void loop()
{
  int read = analogRead(A0);
  if (0<=read && read<=100){
    zero();
  }
  else if(101<=read && read<200){
    one();
  }
  else if(201<= read && read<=300){
    two();
  }
  else if(301<= read && read<=400){
    three();
  }
  else if(401<= read && read<=500){
    four();
  }
  else if(501 <= read && read<=600){
    five();
  }
  else if(601<= read && read<=700){
    six();
  }
  else if(701<= read && read<=800){
    seven();
  }
}
```

```

}
else if(801<= read && read<=900){
    eight();
}
else if(901<= read && read<=1023){
    nine();
}
delay(1000);
}

```



6.

```
int f = 13;
```

```
int g = 12;
```

```
int e = 11;
```

```
int d = 10;
```

```
int c = 9;
```

```
int b = 8;
```

```
int a = 7;
```

```
void setup()
```

```
{  
    pinMode(f, OUTPUT);  
    pinMode(g, OUTPUT);  
    pinMode(e, OUTPUT);  
    pinMode(d, OUTPUT);  
    pinMode(c, OUTPUT);  
    pinMode(b, OUTPUT);  
    pinMode(a, OUTPUT);  
    pinMode(2, INPUT);  
}
```

```
void zero()
```

```
{  
    digitalWrite(g, 1);  
    digitalWrite(f, 0);  
    digitalWrite(e, 0);  
    digitalWrite(d, 0);  
    digitalWrite(c, 0);  
    digitalWrite(b, 0);  
    digitalWrite(a, 0);  
}
```

```
void one()
```

```
{  
    digitalWrite(f, 1);  
    digitalWrite(g, 1);  
    digitalWrite(e, 1);
```

}

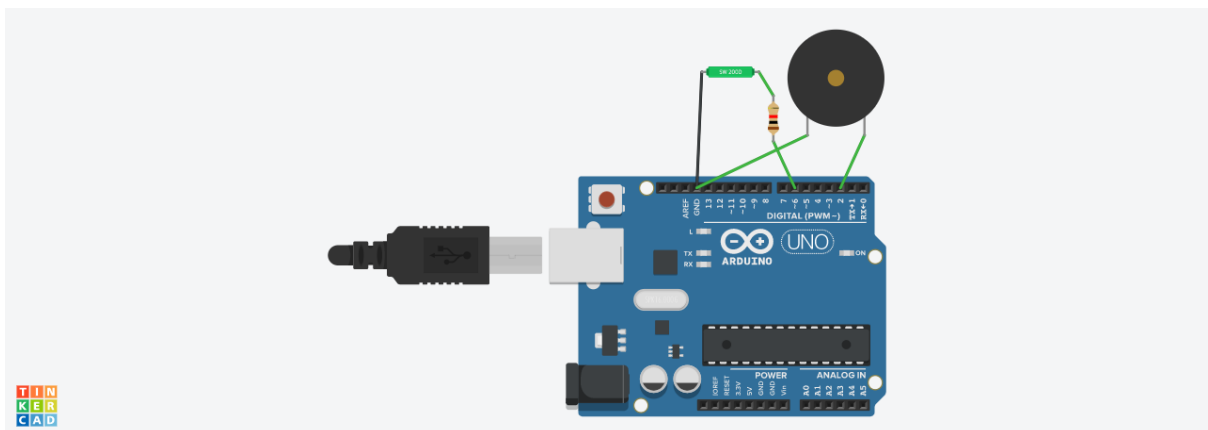
}



7.

```
void setup()
{
  pinMode(2, OUTPUT);
  pinMode(6, INPUT);
  Serial.begin(9600);
}

void loop()
{
  int read = analogRead(6);
  if(read ==0){
    noTone(2);
  }
  else{
    tone(2,440);
  }
  Serial.println(read);
  delay(100);
}
```



8.

```
void setup()
{
  pinMode(2, OUTPUT);
  pinMode(6, INPUT);
}

void loop()
{
  int read = analogRead(6);
  if(read ==0){
    digitalWrite(2,LOW);
  }
  else{
    digitalWrite(2,HIGH);
  }
  delay(100);
}
```

