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/*
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  CS 207 Lab 2 - Challenge Intermediate
  25/09/18

  Morse Code - SOS
  Turns an speaker on and off in a morse code sequence displaying SOS.

Code modified from
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**Blink code:**

```
  modified 8 May 2014
  by Scott Fitzgerald
  modified 2 Sep 2016
  by Arturo Guadalupi
  modified 8 Sep 2016
  by Colby Newman

  This example code is in the public domain.
  (Some comments kept from original code)

  http://www.arduino.cc/en/Tutorial/Blink
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**Arduino Morse Code**

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  Chris Weatherford
https://www.instructables.com/id/Arduino-Morse-Code/
*/


// the setup function runs once when you press reset or power the board
int speaker = 8; //symbolic variable for changing speaker Pin number on Arduino Uno
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```cpp
int dotTime=100; //unit of time variable. specifies dot tone length play time from speaker.
int dashTime=dotTime*3; //unit of time variable. Specifies dashTime tone length.
int note = 1200;
void setup() {
  // initialize pin speaker as an output.
  pinMode(speaker, OUTPUT); //sends voltage out to the pin speaker_BUILTIN
}

// SOS, the S is three dots and the O is three dashes.
void loop() {
  digitalWrite(speaker, HIGH);   // turn the speaker on (HIGH is the voltage level)
  tone(speaker, note, dashTime);  //Play Tone
  delay(dotTime);             // wait for time provided in dotTime variable
  digitalWrite(speaker, LOW);    // turn the speaker off by making the voltage LOW
  tone(speaker, note, dashTime);//Play Tone
  delay(dotTime);             // wait for time provided in dotTime variable
  digitalWrite(speaker, HIGH);   // turn the speaker on (HIGH is the voltage level)
  tone(speaker, note, dashTime);//Play Tone
  delay(dotTime);             // wait for time provided in dotTime variable
  digitalWrite(speaker, LOW);    // turn the speaker off by making the voltage LOW
  tone(speaker, note, dashTime);//Play Tone
  delay(dotTime);             // wait for time provided in dotTime variable
  digitalWrite(speaker, HIGH);   // turn the speaker on (HIGH is the voltage level)
  tone(speaker, note, dashTime);//Play Tone
  delay(dotTime);             // wait for time provided in dotTime variable
  digitalWrite(speaker, LOW);    // turn the speaker off by making the voltage LOW
  tone(speaker, note, dashTime);//Play Tone
  delay(dotTime*3);             // wait for time provided in dotTime variable
```

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digitalWrite(speaker, HIGH);   // turn the speaker on (HIGH is the voltage level)
tone(speaker, note, dashTime);//Play Tone
delay(dotTime*3);          // wait for time provided in dotTime variable
digitalWrite(speaker, LOW);    // turn the speaker off by making the voltage LOW
tone(speaker, note, dashTime);//Play Tone
delay(dotTime);            // wait for time provided in dotTime variable
digitalWrite(speaker, HIGH);   // turn the speaker on (HIGH is the voltage level)
tone(speaker, note, dashTime);//Play Tone
delay(dotTime*3);          // wait for time provided in dotTime variable
digitalWrite(speaker, LOW);    // turn the speaker off by making the voltage LOW
tone(speaker, note, dashTime);//Play Tone
delay(dotTime);            // wait for time provided in dotTime variable
digitalWrite(speaker, HIGH);   // turn the speaker on (HIGH is the voltage level)
tone(speaker, note, dashTime);//Play Tone
delay(dotTime*3);          // wait for time provided in dotTime variable
digitalWrite(speaker, LOW);    // turn the speaker off by making the voltage LOW
tone(speaker, note, dashTime);//Play Tone
delay(dotTime*3);          // wait for time provided in dotTime variable


digitalWrite(speaker, HIGH);   // turn the speaker on (HIGH is the voltage level)
delay(dotTime);            // wait for time provided in dotTime variable
digitalWrite(speaker, LOW);    // turn the speaker off by making the voltage LOW
delay(dotTime);            // wait for time provided in dotTime variable
digitalWrite(speaker, HIGH);   // turn the speaker on (HIGH is the voltage level)
delay(dotTime);            // wait for time provided in dotTime variable
digitalWrite(speaker, LOW);    // turn the speaker off by making the voltage LOW
delay(dotTime);            // wait for time provided in dotTime variable
```

```
  digitalWrite(speaker, HIGH);   // turn the speaker on (HIGH is the voltage level)

  delay(dotTime);                // wait for time provided in dotTime variable

  digitalWrite(speaker, LOW);    // turn the speaker off by making the voltage LOW

  delay(dotTime*7);              // wait for time provided in dotTime variable

}
```