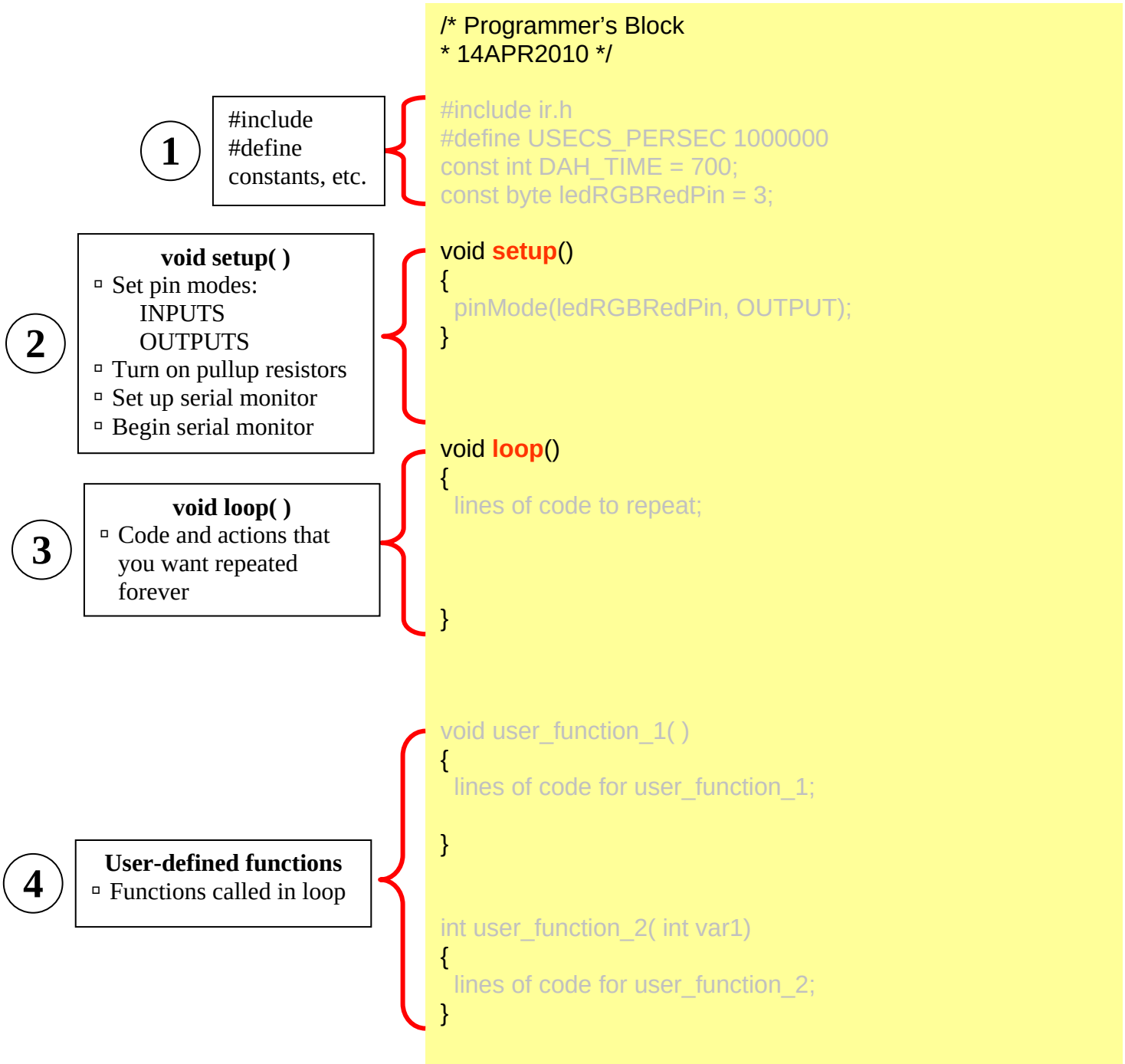
Review of Programming the Arduino

Structure of a program for the Arduino



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A 'sketch must have:
- setup( )
- loop( )

#include
#define
constants, etc.

In setup( ):

Setting pin modes:
- INPUT for pins that will be read to take information IN to the microcontroller
  - Writing a HIGH to a pin declared as an INPUT turns on its pullup resistor
- OUTPUT for pins that will be written to send information OUT of the microcontroller

In loop( ):

What gets done continuously

User functions

```
/* SOS  -  blinks the Morse code SOS on red RGB LED
*  on the Spartronics Experimenter board. Adapted from
http://www.uchobby.com/index.php/2009/02/01/mcu-programming-intro-series-1-sos-on-the-arduino/
* 14APR2010 */

const byte ledRGBPin =  3;    // red RGB LED on digital pin 3
const int DIT_TIME = 300;
const int DAH_TIME = 700;
const int WORD_DELAY = 500;
const int CHAR_SPACE = 200;

void setup()
{
  // initialize the digital pin as an output:
  pinMode(ledRGBPin, OUTPUT);
}

void loop()
{
  morse_S( );
  morse_O( );
  morse_S( );
  delay(WORD_DELAY);
}

void morse_S( )
{
  for(int i=0; i<3; i++){
  digitalWrite(ledRGBPin, HIGH);
  delay(DIT_TIME);
  digitalWrite(ledRGBPin, LOW);
  delay(CHAR_SPACE);
  }
  delay(CHAR_SPACE);
}

void morse_O( )
{
for(int i=0; i<3; i++){
  digitalWrite(ledRGBPin, HIGH);
  delay(DAH_TIME);
  digitalWrite(ledRGBPin, LOW);
  delay(CHAR_SPACE);
  }
  delay(CHAR_SPACE);
}
```