The Chinese University of Hong Kong

Department of Computer Science and Engineering

CENG2030 Fundamentals of Embedded System Design

Lab 6: Arduino Programming

Answer Sheet

Student Name: SID:

1. **Demo video [36%]**
2. **Digital Output [32%]**
   1. Hardware Connections
      1. What is the purpose of connecting a resistor in the circuit?

\_\_To limit or regulate the flow of current \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + 1. We have not connected the DC Power Supply to the Arduino Board, where does it get the power from?

\_\_\_\_It is from the computer by the USB ports.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Software Programming
     1. What is the program statement to set the digital pin to be input or output?

\_\_\_\_\_\_\_pinMode(13,OUTPUT);\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + 1. If the parameter of the delay() function is set to 500 instead of 1000, the LED will blink faster or slower?

\_\_\_\_\_\_\_\_\_\_\_faster\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Digital Input [32%]**
   1. Hardware Connections
      1. When the button is being pressed, what should be the voltage at pin 2 of the Arduino UNO Board?

\_\_\_\_\_\_\_\_\_\_5V\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + 1. What does GND on the Arduino UNO Board stand for?

\_\_\_\_\_\_\_\_\_ground\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Software Programming
     1. What happen when the button is being pressed?

\_\_\_\_\_\_\_light up\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + 1. Which statement in the codes are used to get the button input?

\_\_\_\_ buttonState = digitalRead(buttonPin); \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

THE END