

321

Which of the following is not a valid C variable name?

Option\_a: int number;

Option\_b: float rate;

Option\_c: int variable\_count;

Option\_d: int \$main;

correct\_option: int \$main;

322

Which function is used in Arduino to read the value from an analog sensor?

Option\_a: analogWrite()

Option\_b: digitalRead()

Option\_c: analogRead()

Option\_d: pinMode()

correct\_option: analogRead()

323

What pin is typically used on the Arduino Uno to output a PWM signal?

Option\_a: Pin A0

Option\_b: Pin 13

Option\_c: Pins 3, 5, 6, 9, 10, and 11

Option\_d: Pin A5

correct\_option: Pins 3, 5, 6, 9, 10, and 11

324

Which library is commonly used for interfacing with an RFID module on Arduino?

Option\_a: Wire

Option\_b: SPI

Option\_c: MFRC522

Option\_d: Servo

correct\_option: MFRC522

325

What is the purpose of the pinMode() function in Arduino?

Option\_a: To read analog values

Option\_b: To set a pin as input or output

Option\_c: To delay the program

Option\_d: To send data over serial

correct\_option: To set a pin as input or output

326

How can you control the brightness of an LED using Arduino?

Option\_a: Using digitalRead()

Option\_b: Using delay()

Option\_c: Using analogWrite()

Option\_d: Using Serial.begin()

correct\_option: Using analogWrite()

327

What type of sensor is an MQ-6?

Option\_a: Temperature sensor  
Option\_b: Ultrasonic sensor  
Option\_c: Gas sensor  
Option\_d: Humidity sensor  
correct\_option: Gas sensor

328

Which function is used to interface a buzzer with Arduino?

Option\_a: analogRead()  
Option\_b: tone()  
Option\_c: noTone()  
Option\_d: both tone() and noTone()  
correct\_option: both tone() and noTone()

329

Which pin is typically used to connect a water-level sensor to an Arduino?

Option\_a: Digital pin  
Option\_b: PWM pin  
Option\_c: Analog pin  
Option\_d: Interrupt pin  
correct\_option: Analog pin

330

What does the ultrasonic sensor measure using Arduino?

Option\_a: Humidity  
Option\_b: Distance  
Option\_c: Temperature  
Option\_d: Light intensity  
correct\_option: Distance

331

Which function is used to send data to the serial monitor in Arduino?

Option\_a: printSerial()  
Option\_b: Serial.print()  
Option\_c: SerialRead()  
Option\_d: analogRead()  
correct\_option: Serial.print()

332

What will happen if you try to use pinMode() for an analog pin on Arduino Uno?

Option\_a: Sets it as digital input  
Option\_b: Sets it as analog input  
Option\_c: An error occurs  
Option\_d: Sets it as analog output  
correct\_option: Sets it as digital input

333

Which of the following Arduino pins cannot be used for PWM output?

Option\_a: Pin 9  
Option\_b: Pin 10

Option\_c: Pin 11  
Option\_d: Pin 13  
correct\_option: Pin 13

334

What is the maximum voltage that can be applied to an Arduino Uno's analog pin?

Option\_a: 3.3V  
Option\_b: 5V  
Option\_c: 9V  
Option\_d: 12V  
correct\_option: 5V

335

Which function initializes serial communication in Arduino?

Option\_a: Serial.start()  
Option\_b: Serial.begin()  
Option\_c: Serial.write()  
Option\_d: Serial.open()  
correct\_option: Serial.begin()

336

Which Arduino pin is typically connected to the output pin of a water-level sensor?

Option\_a: Digital pin  
Option\_b: Analog pin  
Option\_c: PWM pin  
Option\_d: Power pin  
correct\_option: Analog pin

337

What is the purpose of an ultrasonic sensor when interfaced with Arduino?

Option\_a: To measure temperature  
Option\_b: To measure distance  
Option\_c: To detect gas  
Option\_d: To detect light intensity  
correct\_option: To measure distance

338

Which sensor is commonly used for detecting the presence of gases like LPG and methane?

Option\_a: DHT11  
Option\_b: MQ-6  
Option\_c: HC-SR04  
Option\_d: RFID  
correct\_option: MQ-6

339

Which library is often used to communicate with an RFID module when interfacing it with Arduino?

Option\_a: Wire  
Option\_b: MFRC522  
Option\_c: Servo

Option\_d: Adafruit  
correct\_option: MFRC522

340

When interfacing a buzzer with Arduino, which function would you use to make it produce sound?

Option\_a: analogRead()  
Option\_b: tone()  
Option\_c: Serial.print()  
Option\_d: digitalRead()  
correct\_option: tone()

341

In a basic LED chaser program using Arduino, what programming concept is most commonly used to make LEDs light up sequentially?

Option\_a: Loop  
Option\_b: Conditionals  
Option\_c: Array and loop  
Option\_d: DigitalRead  
correct\_option: Array and loop

342

What parameter is crucial when measuring distance with an ultrasonic sensor on Arduino?

Option\_a: Frequency  
Option\_b: Speed of sound  
Option\_c: Temperature  
Option\_d: Voltage  
correct\_option: Speed of sound

343

For an MQ-6 gas sensor to function accurately, what is necessary during initialization?

Option\_a: Setting a threshold value  
Option\_b: Calibrating the sensor  
Option\_c: Adjusting the voltage  
Option\_d: Configuring the baud rate  
correct\_option: Calibrating the sensor

344

What type of output does an RFID reader provide to the Arduino?

Option\_a: Analog  
Option\_b: Digital  
Option\_c: Serial data  
Option\_d: PWM  
correct\_option: Serial data

345

What is the usual power requirement for a standard buzzer interfaced with Arduino?

Option\_a: 3.3V  
Option\_b: 5V  
Option\_c: 12V

Option\_d: 24V  
correct\_option: 5V

346

Which Arduino function is used to control the duration of time for which each LED remains on in an LED chaser project?

Option\_a: digitalWrite()  
Option\_b: delay()  
Option\_c: analogWrite()  
Option\_d: tone()  
correct\_option: delay()

347

Which type of signal does an ultrasonic sensor send to measure distance?

Option\_a: Sound waves  
Option\_b: Infrared  
Option\_c: Light waves  
Option\_d: Magnetic field  
correct\_option: Sound waves

348

When using the MQ-6 sensor, which of the following gases can it detect?

Option\_a: Methane  
Option\_b: Carbon dioxide  
Option\_c: Oxygen  
Option\_d: Carbon monoxide  
correct\_option: Methane

349

What type of RFID tag is typically used with an MFRC522 RFID module on Arduino?

Option\_a: 125 kHz tag  
Option\_b: ISO14443A standard tag  
Option\_c: Wi-Fi tag  
Option\_d: Bluetooth tag  
correct\_option: ISO14443A standard tag

350

How is an active buzzer different from a passive buzzer when used with Arduino?

Option\_a: An active buzzer requires an external oscillator  
Option\_b: An active buzzer has built-in oscillation  
Option\_c: A passive buzzer is louder  
Option\_d: There is no difference  
correct\_option: An active buzzer has built-in oscillation

351

In an LED chaser circuit, what would happen if there is no delay between LED changes?

Option\_a: The LEDs will not light up  
Option\_b: All LEDs will turn on together  
Option\_c: The LEDs will appear to be moving very fast

Option\_d: The LEDs will not turn on at all  
correct\_option: The LEDs will appear to be moving very fast

352

What is the role of the trigger pin in an ultrasonic sensor like the HC-SR04 when interfaced with Arduino?

Option\_a: To send an ultrasonic wave  
Option\_b: To receive the reflected wave  
Option\_c: To measure temperature  
Option\_d: To control LED brightness  
correct\_option: To send an ultrasonic wave

353

Which gas cannot be detected by the MQ-6 sensor?

Option\_a: Methane  
Option\_b: Propane  
Option\_c: Hydrogen  
Option\_d: Carbon monoxide  
correct\_option: Carbon monoxide

354

Which Arduino pins are typically used to connect the SPI interface of the MFRC522 RFID module?

Option\_a: Pins 8, 9, 10, 11  
Option\_b: Pins 7, 8, 9  
Option\_c: Pins 10, 11, 12, 13  
Option\_d: Pins A0, A1, A2, A3  
correct\_option: Pins 10, 11, 12, 13

355

When interfacing a buzzer with Arduino, which function can you use to stop the buzzer sound?

Option\_a: noTone()  
Option\_b: digitalWrite()  
Option\_c: Serial.end()  
Option\_d: analogWrite()  
correct\_option: noTone()

357

In an LED chaser project, what would happen if the LEDs are connected in reverse polarity?

Option\_a: They will blink faster  
Option\_b: They won't turn on  
Option\_c: They will burn out  
Option\_d: They will be brighter  
correct\_option: They won't turn on

358

The echo pin on the HC-SR04 ultrasonic sensor receives a pulse. What does the duration of this pulse represent?

Option\_a: The time to calculate distance

Option\_b: The distance to the object  
Option\_c: The time taken for the wave to return  
Option\_d: The frequency of the wave  
correct\_option: The time taken for the wave to return

359

What type of signal does the MQ-6 sensor output to Arduino?

Option\_a: Digital signal  
Option\_b: Analog signal  
Option\_c: PWM signal  
Option\_d: Serial signal  
correct\_option: Analog signal

360

In an RFID system, what is the purpose of the tag?

Option\_a: To generate an ultrasonic wave  
Option\_b: To store data  
Option\_c: To measure distance  
Option\_d: To control motors  
correct\_option: To store data

361

Which function is used to set a digital pin as an output in an LED chaser project?

Option\_a: digitalWrite()  
Option\_b: analogWrite()  
Option\_c: pinMode()  
Option\_d: Serial.print()  
correct\_option: pinMode()

362

What is the main component of an ultrasonic sensor like the HC-SR04?

Option\_a: A microphone  
Option\_b: A piezoelectric crystal  
Option\_c: A temperature sensor  
Option\_d: A light sensor  
correct\_option: A piezoelectric crystal

363

How does the MQ-6 sensor output change in response to higher gas concentrations?

Option\_a: The output voltage increases  
Option\_b: The output voltage decreases  
Option\_c: The signal frequency increases  
Option\_d: The signal frequency decreases  
correct\_option: The output voltage increases

367

In an LED chaser project, what would happen if you removed the delay() function?

Option\_a: LEDs would blink slower  
Option\_b: LEDs would remain off  
Option\_c: LEDs would blink rapidly

Option\_d: Only one LED would blink  
correct\_option: LEDs would blink rapidly

368

When using a water-level sensor, what kind of output does the Arduino receive to determine water levels?

Option\_a: Digital signal  
Option\_b: Analog signal  
Option\_c: PWM signal  
Option\_d: Frequency modulation  
correct\_option: Analog signal

369

Which of the following components is essential for measuring the distance to an object using an ultrasonic sensor?

Option\_a: LED  
Option\_b: Trigger and Echo pins  
Option\_c: PWM pins  
Option\_d: Resistor  
correct\_option: Trigger and Echo pins

370

How do you calculate the distance measured by the HC-SR04 ultrasonic sensor?

Option\_a: Distance = Time x Speed of Sound  
Option\_b: Distance = Time / Speed of Sound  
Option\_c: Distance = (Time x Speed of Sound) / 2  
Option\_d: Distance = (Speed of Sound / Time) / 2  
correct\_option: Distance = (Time x Speed of Sound) / 2

371

The MQ-6 gas sensor is typically powered by which voltage range?

Option\_a: 3.3V  
Option\_b: 5V  
Option\_c: 9V  
Option\_d: 12V  
correct\_option: 5V

372

When using an RFID module with Arduino, what kind of data is typically stored on the RFID tags?

Option\_a: Text data only  
Option\_b: Unique ID  
Option\_c: Images  
Option\_d: Digital signals  
correct\_option: Unique ID

373

In a buzzer circuit, what function does tone(pin, frequency) serve in an Arduino program?

Option\_a: Sets a digital pin as output  
Option\_b: Plays a sound at the specified frequency



Option\_c: Sends data to the serial monitor  
Option\_d: Delays the program  
correct\_option: Plays a sound at the specified frequency

374

What is the purpose of the RFID reader's SS (Slave Select) pin when interfaced with Arduino?

Option\_a: To power the RFID tag  
Option\_b: To start communication with the RFID module  
Option\_c: To read the tag data  
Option\_d: To stop communication with the module  
correct\_option: To start communication with the RFID module

375

In an LED chaser circuit, what is the effect of decreasing the delay time?

Option\_a: Increases LED brightness  
Option\_b: Increases LED chase speed  
Option\_c: Decreases LED brightness  
Option\_d: Stops the LED sequence  
correct\_option: Increases LED chase speed

376

What command should be used to clear the tone from a pin after using tone() in a buzzer circuit?

Option\_a: stopTone(pin)  
Option\_b: noTone(pin)  
Option\_c: Serial.end()  
Option\_d: digitalWrite(pin, LOW)  
correct\_option: noTone(pin)

378

What is the range of distances an HC-SR04 ultrasonic sensor can typically measure?

Option\_a: 2cm to 400cm  
Option\_b: 5cm to 100cm  
Option\_c: 10cm to 200cm  
Option\_d: 1cm to 500cm  
correct\_option: 2cm to 400cm

379

When using a water-level sensor, higher water levels result in which type of reading on an analog pin?

Option\_a: Higher analog values  
Option\_b: Lower analog values  
Option\_c: No change  
Option\_d: Constant output  
correct\_option: Higher analog values

380

Which function is used to initialize communication with the RFID module in an Arduino sketch?

Option\_a: RFID.init()  
Option\_b: SPI.begin()  
Option\_c: rfid.PCD\_Init()  
Option\_d: Wire.begin()  
correct\_option: rfid.PCD\_Init()

381

What does the echo pin on the ultrasonic sensor do?

Option\_a: Sends an ultrasonic wave  
Option\_b: Receives the ultrasonic wave reflection  
Option\_c: Measures distance directly  
Option\_d: Generates power  
correct\_option: Receives the ultrasonic wave reflection

382

When interfacing the MQ-6 gas sensor, which factor affects its sensitivity to gases?

Option\_a: Humidity  
Option\_b: Air pressure  
Option\_c: Heater voltage  
Option\_d: Temperature  
correct\_option: Heater voltage

383

Which Arduino function sets up communication at a specific baud rate for RFID modules

Option\_a: Serial.write()  
Option\_b: Serial.begin()  
Option\_c: RFID.read()  
Option\_d: Serial.available()  
correct\_option: Serial.begin()

384

Which of these is an application of an LED chaser project?

Option\_a: Distance measurement  
Option\_b: Visual indicators in displays  
Option\_c: Gas detection  
Option\_d: Sound control  
correct\_option: Visual indicators in displays

385

In a buzzer circuit, which of these can be controlled by changing the frequency parameter in tone()?

Option\_a: Brightness of an LED  
Option\_b: Pitch of the buzzer sound  
Option\_c: Speed of motor  
Option\_d: Serial data rate  
correct\_option: Pitch of the buzzer sound

386

For an HC-SR04 sensor, what unit is the time taken for sound waves to return typically measured in?

Option\_a: Seconds  
Option\_b: Milliseconds  
Option\_c: Microseconds  
Option\_d: Nanoseconds  
correct\_option: Microseconds

387

Which component in the MQ-6 sensor heats up to increase gas sensitivity?

Option\_a: A ceramic resistor  
Option\_b: A heating coil  
Option\_c: A capacitor  
Option\_d: An inductor  
correct\_option: A heating coil

388

In RFID applications, what term is used for the component that reads the data stored in RFID tags?

Option\_a: Transmitter  
Option\_b: Reader  
Option\_c: Antenna  
Option\_d: Decoder  
correct\_option: Reader

389

What feature of an LED chaser makes it visually appealing in light displays?

Option\_a: High brightness  
Option\_b: Sequential lighting effect  
Option\_c: Constant brightness  
Option\_d: Sound control  
correct\_option: Sequential lighting effect

390

What role does digitalWrite() serve in turning an LED on or off in an LED chaser circuit?

Option\_a: Sets LED brightness  
Option\_b: Sets the LED to HIGH or LOW  
Option\_c: Delays the sequence  
Option\_d: Stops the program  
correct\_option: Sets the LED to HIGH or LOW

391

If you want the buzzer to play a different tone, what should you change in the tone() function?

Option\_a: Frequency  
Option\_b: Pin number  
Option\_c: Baud rate  
Option\_d: Voltage  
correct\_option: Frequency

392

How does the ultrasonic sensor determine the distance of an object from the sensor?

Option\_a: Based on the frequency of sound  
Option\_b: By measuring time of flight of sound waves  
Option\_c: Using temperature sensors  
Option\_d: Through light reflection  
correct\_option: By measuring time of flight of sound waves

393

When an RFID tag comes near the RFID reader, which signal is used for tag identification?

Option\_a: Analog  
Option\_b: Radio frequency  
Option\_c: Infrared  
Option\_d: Ultrasonic  
correct\_option: Radio frequency

394

Which Arduino function is used to read analog values from a water-level sensor?

Option\_a: analogWrite()  
Option\_b: analogRead()  
Option\_c: digitalRead()  
Option\_d: Serial.print()  
correct\_option: analogRead()

395

What does an RFID tag's UID (Unique Identifier) represent?

Option\_a: The power level of the tag  
Option\_b: A unique serial number  
Option\_c: The frequency of the tag  
Option\_d: The signal strength of the tag  
correct\_option: A unique serial number

396

How can the sensitivity of an MQ-6 gas sensor be adjusted in a circuit?

Option\_a: By changing the supply voltage  
Option\_b: Using a potentiometer  
Option\_c: By altering the baud rate  
Option\_d: Using the delay function  
correct\_option: Using a potentiometer

397

In an LED chaser circuit, which type of loop is most often used to iterate over each LED?

Option\_a: while  
Option\_b: for  
Option\_c: do-while  
Option\_d: switch  
correct\_option: for

398

What frequency range is typically used for RFID communication with the MFRC522 module?

Option\_a: 860-960 MHz

Option\_b: 125 kHz  
Option\_c: 13.56 MHz  
Option\_d: 433 MHz  
correct\_option: 13.56 MHz

399

Which Arduino component can store data received from an RFID tag?

Option\_a: EEPROM  
Option\_b: RAM  
Option\_c: Flash  
Option\_d: Analog pin  
correct\_option: EEPROM

400

For an LED chaser effect, which pin mode should each LED pin be set to?

Option\_a: INPUT  
Option\_b: OUTPUT  
Option\_c: ANALOG  
Option\_d: PWM  
correct\_option: OUTPUT