



QUIZ

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| State | Finished |
| Completed on | Sunday, 4 February 2024, 1:44 AM |
| Time taken | 12 mins 29 secs |
| Grade | 20.00 out of 20.00 (100%) |

Question 1

Correct

Mark 1.00 out of 1.00

You need to identify the IP address to the Arduino Ethernet Shield. What standard program will you use?

- ☐ a. DchpChatServer
- ☒ b. DhcpAddressPrinter ✓
- ☐ c. WebServer
- ☐ d. TelnetClient

Question 2

Correct

Mark 1.00 out of 1.00

You establish a connection between the Evothings Workbench and Evothings client. However, the client cannot find the Evothings Workbench. How can you fix this problem?

- ☒ a. Try to connect them using URL written in the Evothings Workbench ✓
- ☐ b. Try to connect them using Visual Studio 2019 (or a later version)
- ☐ c. Update the version of Android or iOS on your smartphone
- ☐ d. Convert the HTML website to the ASP.NET website

Question 3

Correct

Mark 1.00 out of 1.00

You need to identify the default gateway for the local network. What standard program/command will you use?

- ☐ a. arp
- ☒ b. ipconfig ✓
- ☐ c. nslookup
- ☐ d. nbtstat

Question 4

Correct

Mark 1.00 out of 1.00

Five Arduino Uno boards with Arduino Ethernet Shields are connected to the same local network. What should you change in the DhcpAddressPrinter program to get the unique IP address for every device?

- ☒ a. MAC address ✓
- ☐ b. Subnet mask for the local network
- ☐ c. Usage of DhcpAddressPrinter program is not correct in this case. I will use the DHCP Chat Server program
- ☐ d. Default gateway for the local network

Question 5

Correct

Mark 1.00 out of 1.00

In the Arduino app, you open serial communications (i.e. you are going to use the serial monitor) with speed 9600 baud using a code:

Serial.begin(9600);

When you open the serial monitor, the speed is 115200 baud is shown at the bottom of the serial monitor. What will you see in the serial monitor?

- ☐ a. Most likely, I will see the message about correct info from my program
- ☐ b. Most likely, I will see the message "Raspberry Pi must be in use for this app"
- ☒ c. Most likely, I will see nothing or an unintelligible set of characters ✓
- ☐ d. Most likely, I will see a message "Change the number for the baud"

Question 6

Correct

Mark 1.00 out of 1.00

If your computer indicates an IP address in the 169.254.x.x block, it means that ...

- ☐ a. Most likely, a virus blocks the Internet access
- ☐ b. Most likely, the Internet provider disabled the Internet
- ☐ c. Most likely, the DNS server isn't working
- ☒ d. Most likely, the DHCP server isn't working ✓

Question 7

Correct

Mark 1.00 out of 1.00

What programming language do users use in Arduino IDE?

- ☐ a. JavaScript
- ☐ b. C #
- ☐ c. Java
- ☒ d. C or C++ ✓

Question 8

Correct

Mark 1.00 out of 1.00

You need to identify the subnet mask for the network addresses. What standard program/command will you use?

- ☐ a. nslookup
- ☐ b. nbtstat
- ☐ c. arp
- ☒ d. ipconfig ✓

Question 9

Correct

Mark 1.00 out of 1.00

How can you find the number of the COM port to upload the Arduino C/C++ code into Arduino Uno?

- ☒ a. I will analyze COM ports in the USB manager (Windows OS 7/8/10 is discussed). In addition, it is possible to analyze ports in the Arduino IDE. ✓
- ☐ b. I will connect my computer to a USB-B connector. Arduino Uno will be connected by a USB-A connector.
- ☐ c. I will start the ipconfig command without parameters
- ☐ d. I will start the ipconfig command with parameter /all

Question 10

Correct

Mark 1.00 out of 1.00

What is MAC (media access control) address?

- ☐ a. It is equal to qubit
- ☒ b. It is a unique identifier assigned to network interfaces for communications on the physical network segment ✓
- ☐ c. It is equal to the byte
- ☐ d. It is equal to the bit

Question 11

Correct

Mark 1.00 out of 1.00

You need to assign the MAC address to the Arduino Ethernet Shield. What standard program will you use?

- ☐ a. TelnetClient
- ☒ b. DhcpAddressPrinter ✓
- ☐ c. WebServer
- ☐ d. DchpChatServer

Question 12

Correct

Mark 1.00 out of 1.00

You need to show the textual info about the HTML tag in the serial monitor. What C code will you use in the Arduino app?

- ☐ a. `String str = "<H1>Arduino - Control LEDs with a Remote Control</H1>";`
- ☐ b. `client.println("<H1>Arduino - Control LEDs with a Remote Control</H1>");`
- ☒ c. `Serial.println("<H1>Arduino - Control LEDs with a Remote Control</H1>");` ✓
- ☐ d. `<H1>Arduino - Control LEDs with a Remote Control</H1>`

Question 13

Correct

Mark 1.00 out of 1.00

You need to develop the C++ program in Arduino IDE with HTML codes. Here, the web server using Arduino Ethernet Shield and Arduino Uno is discussed. What code will you use for the header HTML tag?

- ☐ a. `Serial.println("<H1>Arduino - Control LEDs with a Remote Control</H1>");`
- ☐ b. `String str = "<H1>Arduino - Control LEDs with a Remote Control</H1>";`
- ☒ c. `client.println("<H1>Arduino - Control LEDs with a Remote Control</H1>");` ✓
- ☐ d. `<H1>Arduino - Control LEDs with a Remote Control</H1>`

Question 14

Correct

Mark 1.00 out of 1.00

What is Arduino IDE?

- ☐ a. It is the network of physical objects or "things" embedded with electronics, software, sensors, and connectivity to enable objects to exchange data with the production, operator and/or other connected devices based on the infrastructure of the International Telecommunication Union's Global Standards Initiative.
- ☐ b. It is a system that integrates several types of power sources (such as solar panels, wind turbines, small hydro, biogas, batteries, etc.) to provide a reliable overall power supply.
- ☐ c. It is a software development methodology, which is intended to improve software quality and responsiveness to changing customer requirements. As a type of agile software development, it advocates frequent "releases" in short development cycles, which is intended to improve productivity and introduce checkpoints where new customer requirements can be adopted.
- ☒ d. It is a cross-platform application written in Java, and derives from the IDE for the Processing programming language and the Wiring projects. It includes a code editor with features such as syntax highlighting, brace matching, and automatic indentation, and is also capable of compiling and uploading programs to the board with a single click. ✓

Question 15

Correct

Mark 1.00 out of 1.00

What is Evothings (<https://evothings.com>)?

- ☐ a. It is a software development methodology, which is intended to improve software quality and responsiveness to changing customer requirements. As a type of agile software development, it advocates frequent "releases" in short development cycles, which is intended to improve productivity and introduce checkpoints where new customer requirements can be adopted.
- ☐ b. This is the technology that is used in Southbridge to connect Northbridge with PCI, USB, ISA, IDE, BIOS, and DVD. Computer motherboard is discussed.
- ☒ c. It is a software IDE for the fast development of mobile apps for IoT using HTML5 and JavaScript ✓
- ☐ d. It is a Linux-based operating system

Question 16

Correct

Mark 1.00 out of 1.00

Nowadays, Arduino hardware is used by IoT around the world. What is Arduino?

- ☐ a. It is equal to quantum computing
- ☐ b. It is the network of physical objects or "things" embedded with electronics, software, sensors, and connectivity to enable objects to exchange data with the production, operator and/or other connected devices based on the infrastructure of the International Telecommunication Union's Global Standards Initiative.
- ☐ c. It is a system that integrates several types of power sources (such as solar panels, wind turbines, small hydro, biogas, batteries, etc.) to provide a reliable overall power supply.
- ☒ d. It is an open-source computer hardware and software company, project and user community that designs and manufactures microcontroller-based kits for building digital devices and interactive objects that can sense and control the physical world. ✓

Question 17

Correct

Mark 1.00 out of 1.00

Nowadays, Arduino hardware is used by IoT around the world. Why do people use Arduino?

- ☐ a. Because of global warming
- ☐ b. Because of global cooling
- ☒ c. Firstly, because of price. For example, a standard Arduino board is now under \$10. A W5100 Ethernet shield is also under \$10. A LCD keypad display shield is under \$6. ✓
- ☐ d. Fewer workers need to achieve the same amount of work, automation in factories (robots do the work of people), increased 'teleworking' (working from home), increased need for highly trained ICT specialists, decreased need for 'labor intensive' workers (like archivists, printers, etc.), need for workers to be trained more frequently (to keep up with the changes in ICT), fewer 'face-to-face' meetings as video conferences can be held over the Internet (reduced travel time and cost).

Question 18

Correct

Mark 1.00 out of 1.00

You need to identify the moving people. What sensor will you use?

- ☒ a. Passive infrared sensor ✓
- ☐ b. Tilt sensor
- ☐ c. Light-emitting diode
- ☐ d. Light sensor

Question 19

Correct

Mark 1.00 out of 1.00

Your laptop is connected to the WiFi router. Your Arduino Ethernet Shield is connected to the same router by Ethernet cable. You see that your laptop and Arduino Ethernet Shield have local IP addresses. Should you use the global IP address to get access to Arduino Ethernet Shield?

- ☐ a. Yes, but Bluetooth must be used
- ☒ b. No ✓
- ☐ c. Yes
- ☐ d. Yes, but the optical fiber must be used

Question 20

Correct

Mark 1.00 out of 1.00

You develop ChatServer using Arduino Ethernet Shield. What is the first step to start the Telnet client in Windows 8.1/10?

- ☐ a. To start the DhcpAddressPrinter in Arduino IDE
- ☒ b. To turn on the Telnet client using "Turn Windows features on or off" ✓
- ☐ c. To turn off the antivirus software
- ☐ d. It is not possible to use the Telnet client in Windows 8.1/10