

## Attempt 1 of 1

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Attempt Score 85.1 / 100 - 85.1 %

Overall Grade (Highest Attempt) 85.1 / 100 - 85.1 %

## Python Questions

## Question 1

1 / 1 point

[1 Point] Which of the following is **TRUE** in Python? Select all that apply.

- ✓☒ A) Python has syntax that allows developers to write programs with fewer lines than some other programming languages.
- ✓☒ B) Python runs on an interpreter system. This means that prototyping can be very quick.
- ✓☒ C) Python works on different platforms (Windows, Mac, Linux, Raspberry Pi, etc).
- ✓☐ D) Python can be treated in a procedural way but not a an object-oriented way or a functional way.
- ✓☒ E) Python has a simple syntax similar to the English language.

▼ [Hide question 1 feedback](#)See [https://www.w3schools.com/python/python\\_intro.asp](https://www.w3schools.com/python/python_intro.asp)

## Question 2

1 / 1 point

[1 Point] Which of the following is true in Python? Select all that apply.

- ✓☐ Python lists can be used for membership tests, eliminating duplicates, union, intersection, difference and symmetric difference
- ✓☒ Python is a loosely typed language

## Question 3

1 / 1 point

[1 Point] In Python, the data type is set when you assign a value to a variable.

- ✓☒ A) True
- ☐ B) False

## Question 4

1 / 1 point

[ Point] Which of the following is true in Python? Select all that apply.

- ✓☐ Constants are part of the Python specification
- ✓☒ Python local variables are restricted to a function or class

## Question 5

1 / 1 point

[1 Point] Which of the following is true in Python? Select all that apply.

- ✓☒ Python is object-oriented

- ▼ Hide question 5 feedback

**Question 6** **1 / 1 point**

▼ Hide question 6 feedback

Question 7

0 / 2 points

What gets printed?

- Question 8 2 / 2 points

```
>>> x = ("apple", "banana", "cherry")
>>> print(x)
>>> print(type(x))
```

What gets printed?

- ☐ A) ('apple', 'banana', 'cherry')  
<class 'list'>
- ✓ ☒ B) ('apple', 'banana', 'cherry')  
<class 'tuple'>
- ☐ C) ('apple', 'banana', 'cherry')  
<class 'set'>

#### Question 9

0 / 2 points

[2 Points] Consider the following Python code:

```
>>> x = 5
>>> y = "john"
>>> print (type(x))
>>> print (type(y))
```

What gets printed?

- ☐ A) <type 'int'>  
<type 'str'>
- ☐ B) <type 'int'>  
<type 'string'>
- ✗ ☒ C) <class 'int'>  
<class 'string'>
- ➡ ☐ D) <class 'int'>  
<class 'str'>

▼ [Hide question 9 feedback](#)

See [https://www.w3schools.com/python/trypython.asp?filename=demo\\_variables\\_type](https://www.w3schools.com/python/trypython.asp?filename=demo_variables_type)

#### Question 10

2 / 2 points

[2 Points] Consider the following Python code:

```
>>> thisset = {"apple", "banana", "cherry", "apple"}
>>> print(thisset)
```

What gets printed?

- ✓ ☒ A) {'banana', 'cherry', 'apple'}
- ☐ B) {'apple', 'banana', 'cherry', 'apple'}

▼ [Hide question 10 feedback](#)

See [https://www.w3schools.com/python/trypython.asp?filename=demo\\_sets\\_duplicate\\_error](https://www.w3schools.com/python/trypython.asp?filename=demo_sets_duplicate_error)

**Question 11****2 / 2 points**

[2 Points] Consider the following Python code:

```
>>> for i in range(5,10):  
...     print(i)
```

What values get printed on separate lines?

☐ 5 6 7 8 9 10

☐ 6 7 8 9 10

☒ 5 6 7 8 9

**JSON Questions****Question 12****2 / 2 points**

[2 Points] Which of the following are true statements for JSON? Select all that apply.

☒ light-weight

☒ text-based

**Question 13****2 / 2 points**

[2 Points] Consider the following example from w3schools.com.

```
<!DOCTYPE html>  
<html>  
<body>  
<p id="demo"></p>  
  
<script>  
const text = '{"name":"John",  
"age":"function() {return 30;}",  
"city":"New York"}';  
const obj = JSON.parse(text);  
obj.age = eval("(" + obj.age +  
")");  
document.getElementById("demo").innerHTML  
= obj.name + ", " + obj.age();  
</script>  
</body>  
</html>
```

What string is displayed in the browser window?

☐ A) <a syntax error>

☒ B) John, 30

☐ C) John, function() {return 30;}

▼ [Hide question 13 feedback](#)

See [https://www.w3schools.com/js/tryit.asp?filename=tryjson\\_parse\\_function](https://www.w3schools.com/js/tryit.asp?filename=tryjson_parse_function)

**Question 14****1.667 / 2 points**

[2 Points] Select all statements that are TRUE regarding JSON vs. XML. Select all that apply.

➡ ☒ JSON can be parsed by a standard JavaScript function

➡ ☒ XML has to be parsed with an XML parser

- ☒ XML cannot be used to receive data from a web server
- ➡ ☒ JSON is quicker to read and write than XML
- ☒ JSON is parsed into a ready-to-use JavaScript object
- ➡ ☒ JSON is shorter than XML

#### Question 15

2 / 2 points

[2 Points] Which of the following are true statements for JSON? Select all that apply.

- ☒ Not a markup language
- ☒ Not a data-interchange format
- ☒ JSON is used to send data between computers
- ☒ JSON is language independent

▼ [Hide question 15 feedback](#)

JSON is language independent because 1) The JSON syntax is derived from JavaScript object notation, but the JSON format is text only. and 2) Code for reading and generating JSON exists in many programming languages.

JSON is a "data-interchange" format, not a "document" format. In fact JSON is used 99% in a data stream, and never stored in a document. JavaScript is not a document format, either, and JSON is a subset of JavaScript. DOCX, RTF, and XLS are "document formats."

See: [https://www.w3schools.com/js/js\\_json\\_intro.asp](https://www.w3schools.com/js/js_json_intro.asp)

#### Question 16

0.5 / 1 point

[1 Point] JSON is better than XML because ... Select all that apply.

- ☒ A) JSON doesn't use end tag
- ➡ ☒ B) JSON is parsed into a ready-to-use JavaScript object.
- ➡ ☒ C) JSON is shorter
- ➡ ☒ D) XML is much more difficult to parse than JSON.

#### Question 17

1 / 1 point

[1 Point] JSON objects are identical to JavaScript Objects.

- ☐ A) True
- ☒ B) False

#### Question 18

1 / 1 point

[1 Point] Select all the statements that are true of JSON. Select all that apply.

- ☒ A) The MIME type for JSON text is "text/json"
- ☒ B) The MIME type for JSON text is "application/json"
- ☒ C) The file type for JSON files is ".json"
- ☒ D) The file type for JSON files is ".js"

#### Question 19

1 / 1 point

[1 Point] JSON values can be one of the following data types. Select all that apply.

✓☒ A) a boolean

✓☒ B) a number

✓☐ C) nil

✓☐ D) *undefined*

▼ [Hide question 19 feedback](#)

See [https://www.w3schools.com/js/js\\_json\\_datatypes.asp](https://www.w3schools.com/js/js_json_datatypes.asp)

#### Question 20

1 / 1 point

[1 Point] JSON is like XML because ... Select all that apply.

✓☒ A) Both JSON and XML are "self describing" (human readable)

✓☒ B) Both JSON and XML are hierarchical (values within values)

✓☐ C) Both use end tags

✓☐ D) Both require similar bandwidth

#### Question 21

1 / 1 point

[1 Point] The drawback of the eval() function is overcome with JSON.parse().

✓☒ A) True

☐ B) False

#### Networking Questions

#### Question 22

2 / 2 points

[2 Points] Which of the following is NOT true regarding IP addresses:

☐ A) IP address is a unique address

☐ B) IPv6 addresses consist of 128 bits

✓☒ C) IP address is not required for a computer to communicate on a network

☐ D) IPv4 addresses consist of 32 bits

▼ [Hide question 22 feedback](#)

An IP address is a unique address that is required of all computers that communicate on a network.

#### Question 23

2 / 2 points

[2 Points] What's the purpose of NAT (network address translation)?

✓☒ It replaces the private IP address with the public IP address on outgoing request

☐ It solves the problem that IPv6 has run out of available addresses

☐ It determines the IPv4 address class

☐ It connects the port number to the DNS server

▼ [Hide question 23 feedback](#)

NAT replaces private IP addresses with a public IP address to allow multiple devices connected in a network to only use one public IP address. This is useful because IPv4 (not IPv6) has run out of addresses.

#### Question 24

2 / 2 points

[2 Points] What type of address is 79.125.0.0?

Private

- ☒ Class A, Public
- ☐ Class B, Private
- ☐ Class B, Public
- ☐ Class A, Private

A 1.0.0.0 - 127.255.255.255      10.0.0.0 - 10.255.255.255  
B 128.0.0.0 - 191.255.255.255      172.16.0.0 - 172.31.255.255  
C 192.0.0.0 - 223.255.255.255      192.168.0.0 - 192.168.255.255

▼ [Hide question 24 feedback](#)

Class A Private addresses are in the range of 10.0.0.0 to 10.255.255.255. At the same time, Class B Private addresses begin from 172.16.0.0, so 79.125.0.0 is a Class A Public address.

#### Question 25

2 / 2 points

[2 Points] TCP is \_\_\_\_\_

- ☒ A connection-oriented protocol
- ☐ the best communication protocol for all modern applications
- ☐ a connectionless protocol
- ☐ good for scenarios where you don't need every packet to arrive at the destination

▼ [Hide question 25 feedback](#)

TCP handles error correction and guarantees that messages are delivered to the destination. This protocol isn't good for applications such as video-streaming services, though, since the overhead for reliable communication would slow down the service too much.

#### Question 26

0 / 2 points

[2 Points] Class A IPv4 addresses include 256 networks, each with 16 million hosts. Which types of organizations hold Class A addresses?

- ☐ A) Cable companies with DVRs
- ☒ B) Large institutions like USC
- ☐ C) ISPs
- ☐ D) Smaller organizations

#### HTML Questions

#### Question 27

2 / 2 points

[2 Points] Consider the following HTML:

```
<HTML><HEAD>This is Text placed between <ODDTAG> HEAD markers .</HEAD></HTML>
```

Text placed between HEAD markers is not normally displayed, but in the case above it is displayed, and the <ODDTAG> is ignored and does not appear on the web page.

- ☒ a) True
- ☐ b) False

**Question 28****2 / 2 points**

[2 Points] Select characters that to appear in HTML need to be represented with numeric or entity references (including ATTRIBUTE values). **Select all that apply.**

- ✓☒ & (ampersand)
- ✓☒ > (double quote)
- ✓☒ ' (single quote)

▼ [Hide question 28 feedback](#)

Beside &amp; you may also want to represent the double-quote (") as &quot; ; and the single quote (') as &apos; ;. This would certainly be the case in attribute text when you need to use the same type of quotes as those that surround the attribute value.

**Question 29****1 / 2 points**

[2 Points] When using Universal Resource Identifiers (URIs) in HTML to reference other HTML pages at different web sites, what are the **required** components of the URIs? Please select all that apply.

- ✗☒ fragment identifier
- ✓☐ port
- ✗☒ name of resource
- ➡ ✓☒ host

**Question 30****2 / 2 points**

[2 Points] What are true statements of HTML "anchors"? Select all that apply.

- ✓☒ Must be unique within a document
- ✓☒ Fragment identifiers and related anchor names must be exactly matched
- ✓☐ To create a link to an anchor, you must use the 'id' attribute

**Question 31****2 / 2 points**

[2 Points] Select all the statements that are TRUE of HTML Attributes. Select all that apply.

- ✓☒ All HTML elements can have **attributes**
- ✓☐ Some attributes can be specified in **the end tag**
- ✓☒ Attributes can come in name/value pairs like: **name="value"**, or as single names.
- ✓☒ HTML attributes provide additional information about HTML elements

**HTTP Questions****Question 32****1.6 / 2 points**

[2 Points] What are possible uses (functions) of a proxy server? Select all that apply.

- ➡ ✗☐ White Listing
- ➡ ✓☒ Load Balancing
- ➡ ✓☒ Black Listing
- ➡ ✓☒ Caching
- ✓☐ Red Listing

**Question 33****2 / 2 points**

[2 Points] What is the most 'popular' server response that even the lay (non technical) public would know about?

- ✓☒ 404 Page Not Found
- ☐ 200 OK
- ☐ 301 moved permanently



**Question 34****2 / 2 points**

[2 Points] Select any header that is used to improve cache performance. Select all that apply.

- ✓ ☒ Expires
- ✓ ☒ Cache-control
- ✓ ☐ Last-seen

**Question 35****0 / 2 points**

[2 Points] What header is sent in a Response to indicate the host is running Apache 2.0?

- ✗ ☒ Host: Apache 2.0
- ➡ ☐ Server: Apache 2.0

**Question 36****1.333 / 2 points**

[2 Points] What Status Codes indicate a "redirect", because a resource has been moved? Select all that apply.

- ➡ ✓ ☒ 301
- ➡ ✓ ☒ 302
- ✗ ☒ 304

**Question 37****1 / 1 point**

[1 Point] HTTP Strict-Transport-Security (HSTS) is a security feature that disallows insecure communication.

- ✓ ☒ A) True
- ☐ B) False

**Question 38****1 / 1 point**

[1 Point] The "keep-alive" feature / HTTP header is the same as "persistent connections."

- ✓ ☒ A) True
- ☐ B) False

**CSS Questions****Question 39****2 / 2 points**

[2 Points] Consider the following CSS.

```
.showNav ul li a:hover{color:#202022;}
```

And the following HTML snippet.

```
<div class="showNav">
  <ul>
    <li>
      <SOME HTML>
    </li>
  </ul>
</div>
```

Which of these examples to replace <SOME HTML> will trigger the CSS?

- ✓ ☒ A) <a href="abc.html">Some navigation</a>
- ☐ B) <b> some navigation </b>
- ☐ C) <img href="pict.png">

**Question 40****1 / 2 points**

[2 Points] Consider the following example from w3schools.com.

```

<!DOCTYPE html>
<html>
<head>
<style>
p:first-child i {
    color: blue;
}
</style>
</head>
<body>

<p>I am a <i>strong</i> person. I am a <i>happy</i>
person.</p>
<p>I am a <i>handsome</i> person. I am a <i>student</i>
person.</p>

</body>
</html>

```

Select all the actual behaviors of this code. Select all that apply.

- ☒ ☐ *handsome* is colored blue
- ☒ ☒ *strong* is colored blue
- ☒ ☐ *happy* is colored blue
- ☒ ☐ *student* is colored blue

#### Question 41

2 / 2 points

[2 Points] Consider the following example from w3schools.com.

```

<!DOCTYPE html>
<html>
<head>
<style>
p.center {
    text-align: center;
    color: red;
}

p.large {
    font-size: 300%;
}
</style>
</head>
<body>

<h1 class="center">This is heading 1.</h1>
<p class="center">This is paragraph 1.</p>
<p class="center large">This is paragraph 2.</p>

</body>
</html>

```

Select all the actual behaviors of this code. Select all that apply.

- ☒ ☒ *heading 1* is not affected by listed the CSS style
- ☒ ☐ *heading 1* will be centered
- ☒ ☒ *paragraph 2* will be red, center-aligned, and in a large font-size
- ☒ ☒ *paragraph 1* will be red and center-aligned

#### Question 42

2 / 2 points

[2 Points] Which of the following are true of CSS? Select all that apply.

- ✓ ☒ a style for tag.class has higher precedence than one for .class
- ✓ ☒ most websites use external CSS style sheets

#### Question 43

1 / 1 point

[1 Point] Consider the following CSS:

```
.showNav ul li a: hover{color:#202022;}
```

And the following HTML snippet:

```
<div class="showNav">  
  <ul>  
    Hello World  
  </ul>  
</div>
```

Will "Hello World" color change as a result of the CS? Answer True=Yes, No=False.

- ☐ A) True
- ✓ ☒ B) False

▼ [Hide question 43 feedback](#)

You need a sequence of nested "<any-tag> <ul> <li> <a>" to trigger the CSS.

#### Question 44

1 / 1 point

[1 Point] What is the difference between and ID Attribute and a CLASS Attribute in CSS?

- ☐ A) A CLASS Attribute can only be used once
- ✓ ☒ B) An ID attribute can only be used once
- ☐ C) An ID Attribute can be used multiple times
- ☐ D) No difference

▼ [Hide question 44 feedback](#)

[https://developer.mozilla.org/en-US/docs/Web/HTML/Global\\_attributes/id](https://developer.mozilla.org/en-US/docs/Web/HTML/Global_attributes/id)

#### HTML DOM Questions

#### Question 45

2 / 2 points

[2 Points] Consider the following example from w3schools.com:

```

<!DOCTYPE html>
<html>
<body>

<p>This is a p element</p>
<p>This is also a p element.</p>
<p>This is also a p element.</p>
<button onclick="myFunction()">Try
it</button>

<script>
function myFunction() {
    var x =
document.getElementsByTagName("P");
    var i;
    for (i = 0; i < x.length-1; i++)
    {
        x[i].style.backgroundColor =
"red";
    }
}
</script>
</body>
</html>

```

What happens when one clicks the "Try it" button?

- ☐ changes the background color of the last 2 P elements in this document
- ☐ changes the background color of all 3 P elements in this document
- ☒ changes the background color of the first 2 P elements in this document

#### Question 46

2 / 2 points

[2 Points] Consider the following example from w3schools.com.

```

<!DOCTYPE html>
<html>
<body>

<p>Click the button to create
a Text Node.</p>

<button
onclick="myFunction()">Try
it</button>

<script>
function myFunction() {
    var t =
document.createTextNode("Hello
World");

document.body.appendChild(t);
}
</script>
</body>
</html>

```

What happens when one clicks the "Try it" button?

- ☐ Hello World is printed above the Try It button
- ✓ ☒ Hello World is printed next to the Try It button
- ☐ Hello World is printed below the Try It button

**Question 47****2 / 2 points**

[2 Points] Consider the following example from w3schools.com.

```
<!DOCTYPE html>
<html>
<body>

<a name="html">HTML
Tutorial</a><br>
<a name="css">CSS Tutorial</a><br>
<a name="xml">XML Tutorial</a><br>

<button onclick="myFunction()">Try
it</button>

<p id="demo"></p>

<script>
function myFunction() {
  var x = document.anchors.length;

  document.getElementById("demo").innerHTML
  = x;
}
</script>

</body>
</html>
```

What happens when one clicks the "Try it" button?

- ☐ The number 3 is displayed next to the "Try it" button
- ☐ The number 4 is displayed below the "Try it" button
- ✓ ☒ The number 3 is displayed below the "Try it" button

**Question 48****2 / 2 points**

[2 Points] Consider the following example from w3schools.com.

```

<!DOCTYPE html>
<html>
<body>

<p>This example uses the
addEventListener() method to attach
a click event to the document.</p>

<p>Click anywhere in the
document.</p>

<p id="demo"></p>

<script>
document.addEventListener("click",
function(){

document.getElementById("demo").innerHTML
= "Hello World!";
});
</script>

</body>
</html>

```

What happens when one clicks TWICE anywhere in the document ?

- ✓ ☒ "Hello World!" is printed below the Note
- ☐ "Hello World!" is printed above the Note
- ☐ Nothing

#### Question 49

2 / 2 points

[2 Points] Consider the following example from w3schools.com.

```

<!DOCTYPE html>
<html>
<body>

<p id="demo">Nice paragraph.</p>
<button onclick="myFunction()">Try
it</button>

<script>
function myFunction() {
    var x =
document.getElementById("demo");
    x.style.color = "green";
}
</script>

</body>
</html>

```

What happens when one clicks the "Try it" button?

nothing

- ☐ nothing
- ☐ 'Nice paragraph' color is changed to red
- ✓ ☒ 'Nice paragraph' color is changed to green
- ☐ 'Nice paragraph' background color is changed to green

☐ 'Nice paragraph' background color in unchanged

#### Question 50

1 / 1 point

[1 Point] The DOM is available in Java and JavaScript implementations

- ✓ ☒ True  
☐ False

#### Question 51

1 / 1 point

[1 Point] What is the "novel" idea that Tim Berners-Lee invented?

- ✓ ☒ Hyperlinking  
☐ Hypercard  
☐ Deep Linking  
☐ HTML and CSS

▼ [Hide question 51 feedback](#)

Before Hyperlinking was invented, there was no way to jump from one document from one computer to another computer on a different Internet address.

#### Question 52

1 / 1 point

[1 Point] In HTML, which element do we use to create an ordered list?

- ☐ <li>  
☐ <ordered\_list>  
✓ ☒ <ol>  
☐ <ul>

▼ [Hide question 52 feedback](#)

We use the <ol> tag to create the ordered list and we nest <li> tags within to create list elements.

#### Question 53

1 / 1 point

[1 Point] How many heading tags are there in HTML?

- ☐ 3  
☐ 8  
☐ 10  
✓ ☒ 6

▼ [Hide question 53 feedback](#)

There exists <h1> through <h6>

#### JavaScript / RegEx Questions

#### Question 54

2 / 2 points

[2 Points] Consider the following guidelines for a security policy for passwords:

- at least 8 characters
- combination of upper- and lower-case characters
- one or more digits
- not a dictionary word

Select all that apply.

- ✓ ☒ Should be avoided

- ✓ ☐ They provide strong security
- ✓ ☐ They are better than using Diceware
- ✓ ☒ They are no longer considered secure

#### Question 55

1 / 2 points

[2 Points] Select all the JavaScript statements that are syntactically correct.

- ➡ ✓ ☒ var multipleValues = [ ];
- ➡ ✓ ☒ var multipleValues = new Array();
- ➡ ✗ ☐ var multipleValues = Array();
- ➡ ✗ ☐ var multipleValues = Array(5);

#### Question 56

2 / 2 points

[ 2 Points] Consider the following JavaScript statements:

```
foo = 5;
bar = "5";
num1 = foo + bar;
```

What will be value of num1?

- ◀ ☐ 55 (numeric)
- ✓ ☒ "55" (string) ▶

#### Question 57

2 / 2 points

[2 Points] Consider the following regular expression:

```
var pattern = /(^\d+)$|(^\d+\.\d+)$/
```

Select the correct description from the various options below.

- ◀ ☐ Either zero or more minus signs, followed by one or more digits, or zero or more minus signs followed by one or more digits, followed by a dot (.), followed by one or more additional digits, and followed by a dollar sign. ▶
- ✓ ☐ Either zero or more minus signs, followed by zero or more digits, or zero or more minus signs followed by zero or more digits, followed by a dot (.), and followed by one or more additional digits.
- ✓ ☒ Either zero or more minus signs, followed by one or more digits, or zero or more minus signs followed by one or more digits, followed by a dot (.), and followed by one or more additional digits.

#### Question 58

0 / 2 points

[2 Points] Consider the following example from w3schools.com.

```
<!DOCTYPE html>
<html>
<body>

<p id="demo"></p>

<script>
// x is a string
let x = "John";

// y is an object
let y = new String("John");

document.getElementById("demo").innerHTML
=
typeof x + "<br>" + typeof y;
</script>

</body>
</html>
```



What output will be displayed on the page?

- ➡ ☐ A) string  
object
- ☐ B) object  
string
- ✖ ☒ C) string  
string
- ☐ D) object  
object

▼ [Hide question 58 feedback](#)

See: [https://www.w3schools.com/js/tryit.asp?filename=tryjs\\_string\\_object](https://www.w3schools.com/js/tryit.asp?filename=tryjs_string_object)

#### Question 59

2 / 2 points

[2 Points] Consider the following example from w3schools.com

```
<!DOCTYPE html>
<html>
<body>

<p id="demo"></p>

<script>
// Create an Array:
const cars = ["Saab", "Volvo",
"BMW"];

// Change an element:
cars[0] = "Toyota";

// Add an element:
cars.push("Audi");

// Display the Array:
document.getElementById("demo").innerHTML
= cars;
</script>

</body>
</html>
```

What output will be displayed?

- ☐ Toyota,Volvo,BMW
- ☐ Saab,Volvo,BMW,Audi
- ✓ ☒ Toyota,Volvo,BMW,Audi
- ☐ Saab,Volvo,BMW

#### Question 60

2 / 2 points

[2 Points] Arrays in JavaScript have properties and methods.

- ✓ ☒ True
- ☐ False

Done