Quiz Answers

* Which protocol is appropriate for sending credit card information over the internet for secure transmission?
  + HTTPS
* HTML is a case sensitive language
  + False
* \_\_\_ is an HTTP method indicating that the client wishes to obtain a resource from the server.
  + GET
* \_\_\_ Server maintains a database of hostnames and their corresponding IP addresses and performs the translations automatically.
  + DNS
* HTTP \_\_\_ method typically sends data to a server
  + POST
* \_\_\_ is used to specify the presentation or styling of elements on a web page
  + CSS
* \_\_\_ is the on demand availability of computer system resources, especially data storage and computing power, without direct active management by the user.
  + Cloud computing
* \_\_\_ uniquely identifies a webpage or resource and specifies the location on the WWW along with the mechanism protocol for retrieving it
  + URL
* There is an IP address corresponding to a host name in the Internet
  + True
* \_\_\_ is a programming language that is used to create dynamic web pages
  + JavaScript
* To create of form in HTML a \_\_\_ element is used.
  + Form
* How will you insert a multiline text for comments in a form?
  + Using input type textarea
* In HTML which attribute is used to specify that an input field must be filled out?
  + Required
* What is the correct HTML for inserting an image?
  + <img src=”image.gif” alt=”MyImage”>
* What is the appropriate HTML tag for the smallest heading?
  + H6
* Select the correct option to create an e-mail link?
  + A href=<mailto:oasdmfosm@drjgod.com>
* What is the meaning of <! DOCTYPE HTML>?
  + Instruction to the web browser about what version of HTML the page is written in
* Select an option to make a list that lists the items with numbers (Order lists)?
  + Ol (order list)
    - Ul is unordered list of item
    - Dl is description list
* Which attribute specifies where to send the form data when a form is submitted?
  + Action
* HTML5 input types can be used to validate certain user input on the client side.
  + True

Lectures

* HTML5 is the latest version of HTML (not case sensitive)
* CSS used to specify the presentation, styling, of elements on a webpage
  + Designed to style portable web pages independently
  + CSS3 is the current version of CSS under development
* Javascript helps build dynamic web pages
  + Client-side programming of web applications
  + Created by Netscape
  + Portable scripting language and it IS case sensitive
  + jQuery is most popular
* Internet was made possible by the convergence of computing and communications technologies
* Bit
  + Short for binary digit is the smallest data item in a computer.
  + It is values of 0 and 1
* The protocol for communicating over the ARPANET became known as TCP or Transmission Control Protocol
  + Ensures that messages were properly routed from sender to receiver and that they arrived intact
* IP
  + Internet Protocol
  + Current standard is IPv4
  + IPv6 is just starting to be deployed
* HTTPS
  + URLs of websites that handle private info like credit cards us HTTPS : / /
  + Standard for transferring encrypted data on the web
  + URL contains information that directs a browser to the resource that the user wishes to access
* Webpage is nothing more than an HTML document
* Clicking hyperlink the web server locates the requested web page and sends it to the user’s web
* URL http:// HTTP should be used to obtain the resource
  + Host name or the [www.com](http://www.com)
  + This is translated into IP and then DNS maintains a database of hostnames and their IP
* GET in HTTP means client wishes to obtain a resource from the server
* TWO most common HTTP request is GET and POST
  + GET is to retrieve information from server
  + Post is to send data to a server as part of the HTTP message not URL
    - Preferred since it hides user by embedding it
  + HTTp request often posts data to a server side form handler
* ? in google.com/search? Separates the url from a query string
  + Use of data passed in a query string to retrieve resources from server
* Browser often cache or save on disk for quick loading
* Web-based applications are often multitier applications (n-tier applications) that divide the functionality into separate tiers
  + Bottom tier maintains the applications data
  + Middle tier implements business logic, controller logic, and presentation logic to control interactions between the application’s clients and its data
    - Acts as an intermediary between data in the information tier and the applications clients
    - Middle tier controller logic processes client requests and retrieves data from the database
    - Middle-tier presentation logic then processes data from the information tier and presents the content to the client
    - Business logic enforces business rules and ensures that data is reliable
  + Top tier or client tier is the application’s user interface
* Client-side scripting does have limitations, such as browser dependency; the browser or scripting host must support the scripting language and capabilities
* World Wide Web is an application that operates over the internet
  + Internet provides infrastructure
  + World Wide Web utilizes the infrastructure to run an application
* Uniform resource Identifier (URI)
  + Alphanumeric string of characters used to uniquely identify a web page or resource
* Uniform Resource Locator (URL)
  + Type of URI that specifies the location on the WWW and the protocol mechanism for retrieving it
* WWW
  + Static
    - Same for all users and at all times
    - Things HTML, CSS
  + Dynamic
    - Programmatically generated depending on the user, context, configuration, arguments
    - Things like JavaScript
* Web Browser is a software that is used to access and display web content and navigate the web
  + Works by utilizing HTTP to transfer documents from client to server
* Main components of the Browser
  + HTML/CSS
  + JavaScript
* Client Server Model
  + Client sends request for resource
  + Server sends response including header and requested resource
* GET – Retrieve resource
* HEAD – retrieve only Headers (information about the resource
* POST – create resource (usually in form submission
* Anatomy of an HTTP response
  + 1xx – information only
  + 2xx – success
  + 3xx – client redirect
  + 4xx – client error
  + 5xx – server error
    - First line is always protocol and status code
    - Most common status code:
      * 200 OK – success
      * 404 not found – requested resource does not exist
      * 500 server error – error in server side
    - Second line will be a header information regarding response
    - Then a blank line
    - Then a response body

Module 2

* HTML standard used to describe format and structure with which content should be displayed
* <p></P> to create paragraphs
* <!DOCTYPE html> declaration to the web browser of what version of html the document uses
  + After <html> must be used. Then all the code. Then ends with </html>
* <head> contains information about the document, not the content
  + <title> displays the title in browser title
  + <link> used to add CSS stylesheets and icons to page
  + <meta> used to specify the metadata like page descriptions and keywords
  + <script> used to add javascript code to the page
* <body> contains all the web page content
  + When a browser makes a request for a document, the HTML will be returned in the body of the response and displayed in the browser
* When using headers there is 6 tags <h1> - <h6>
  + H1 being most important H6 being Least important
* <b> means BOLD
* <i> means italicized
* Tags used to mark a break
  + <HR> represents a more serious shift in content, visually separates content by inserting a visible line
  + <br> single line break, inserts a blank line
* <div> provides additional structure to a webpage
  + Block-level container for organized content
  + Often used for Page headers/footers
  + Menus or navigation bars
  + Photo galleries
  + Ads or outside media
* <span> inline container for organized content
  + Inline elements designed to contain a smaller pieces of content, usually within a larger block of content; does not start with new line
  + Small section of text
* < ! – comments -- > These will not be shown in the browser
  + Used to leave notes or explain
* HTML special symbols & characters
  + &nbsp; Non-breaking space; allows for extra white space between words
  + &lt; <
  + &gt; >
  + &amp; &
  + &copy; c in circle
  + &reg; r in circle
* Hyperlinking to an E-mail Address
  + <a href = “mailto:fsdjf@deitel.com:>
* Hyperlinking to Image
  + <img src = “sdf.png” width = “92” height = “120” alt = “sdfj”>
  + Maintain the 2:1 width to height ratio
  + Alt is used in case image can’t render
* Ul is an unordered list
  + Creates a list in which each item in the list begins with a bullet symbol
  + <ul> uses bullet point
    - <li>
* Ol is an ordered list
  + Uses numbers or alphabet
* <table border = “1”> defiens an HTML5 table
* <thead> used to put the content in table , the first row
* <tbody> everything content wise in table
* <Tfoot> last cells in table
* Tr element defines individual table rows
* Element th
  + Defines a header cell
* Td element
  + Contains table data elements
* Can merge data cells with rowspan and colspan attributes
* HTML5 provides forms for collecting information from users
* A form is defined by a form element
  + Using method = “post”
  + Other possible method = “get”
  + Action = “action” specifies the script to which the form data will be sent
* Input elements specify data to provide to the script that processes the form (form handler)
  + Type is determined by type attribute
  + Submit input element is a button
    - Value attribute sets the text displayed on the button
    - Reset input element a user to reset all form elements to their default values
  + The textarea element inserts a multiline text are in the form
  + Rows attribute = number of rows
  + Cols attribute = number of columns
  + Select input = creates a drop down list
* Style attribute allows you to change the appearance of the text within that element
* Class attribute allows you to group elements so that they can easily have the same style applied

Module 3

* Color input type enables the user to enter a color
* As of now color input is used as a text field where u can enter a hexadecimal code or a color name
* New HTML 5 input types are self-validating on the client side so no need for complicated JavaScript code
* To bypass validation, you can add formnovalidate attribute
* Date input enables the user to enter a date in the form yyyy-mm-dd
  + Start date is the current date
  + Data input type enables the user to enter a date (year,month,day) time(hour,minute,second,fraction of a second) and the time zone set to UTC
* Datetime-local input type
  + Enter dat and time in single control
* Email input type enables the user to enter an e-mail address or a list of e-mail addresses separated by commas
* Placeholder attribute allows you to place temporary text in a text field usually light gray
* HTML5 supports placeholder text for only 6 input types, text, search, url, tel, email, and password
* Required attribute forces user to enter a value before submitting
* Month input type enables the user to enter a year and month in the format yyyy-mm
* Number input type enables the user to enter a numerical value
* Range input type appears as a slider control setting min and max specify a value
* Search input type provides a search field for entering a query
* Tel input type enables the user to enter a telephone number
  + Does not self validate in HTML5
* Time input type enables the user to enter an hour, minute, seconds and fraction of a second
  + HTML5 specification indicates that a time must have two digits representing the hour follow by : and two more digits
* URL input type enables the user to enter a url
  + Proper format is http”//wwww.rtjs.com
  + HTML5 does not check if valid. Only validates if entered in correct format
* The week input type enables the user to select a year and week number in the format yyyy-wnn

Module 4

* Cascading Style Sheets 3 (CSS3)
  + Used to specify the presentation of elements separately from the structure of the document
  + Validator is jigsaw.w3.org/css-validator/
* CSS is a formatting language used to describe the appearance of content in an HTML file
  + Has a standardized specification defined by the WorldWideWeb consortium
* CSS works
  + Web browser receives the HTML page from the server via HTTP
  + The HTML page can include CSS either in same file or with link to separate
  + When all HTML and CSS files are available the browser will render the page
  + For each element in the HTML page, the web browser will display the content and use CSS to style it
  + Ideally, exactly one set of CSS styles will apply to any given element
  + If there are conflicting styles defined, complex rules determine which gets applied
* How
  + Inline: uses tag’s “style” attribute to specify appearance
  + Internal: create <style? Elements in HTML and assign to different tags, classes,
  + External: specify styling in a separate CSS file
* Inline style
  + Declare an individual element’s format using the HTML 5 attribute style
* Each CSS property is followed by a colon and the value of the attribute
  + Multiple property declarations are separated by a semicolon
* Color property sets text color
  + Color names and hexadecimal codes may be used as the color property value
  + Appendix B to find out more colors
* Second technique for using style sheets is internal (embedded) styles sheets
  + Enables you to embed a CSS3 document in an HTML5 documents head section
  + Use <style> after <title>. End with </style>
  + If in style element, use selectors to apply style elements throughout the entire document
* To achieve separation between CSS3 code and HTML5 that it styles, use a CSS selector to specify elements
* AN em element indicates that its contents should be emphasized
  + Each rule body in a style sheet is enclosed in {}
* Style-class declarations are preceded by a .
  + They define styles that can be applied to any element
* Font family property specifies that name of the font to use
  + Serif uses times new romans and Georgia
  + Sans-serif using arial verdana futura
  + Cursive is script
* External style sheets are separate documents that contain only CSS rules
  + Separate pages can all use the same styles
  + When changes to the styles are required, you need to modify only a single CSS file to make sure it changes across al pages known as skinning
  + If using a external put /\* External style sheet \*/
* Link element
  + Use rel attribute to specify a relationship between 2 documents
  + Rel attribute declares the linked document to be a stylesheet for the document
* Type attribute specifies the MIME type of the related document
* Href attribute provides the URL for the document containing the style sheet
* CSS control background of block level elements by adding color and images

Module 5

* User interface Design processes
  + 1. Research
  + 2. Build User Persona
  + 3. Sitemap I user flow
  + 4. Creating wireframes
  + 5. Prototype
  + 6. Validate Design
* Sitemap provides the foundation for any well-designed website
  + Gives designers a clear idea of the website’s information architecture and explains the relationships between the various pages and content element
* Wireframing provides a framework for storing the site’s visual design and content elements and can help identify potential challenges and gaps with the site map
  + Acts as a guide for how the site will look even though it doesn’t contain any final design elements
* Once your website framework is in place you can start with the most important: written content
  + Content serves 2 purposes:
    - 1. Content drives engagement and action
    - 2. SEO
      * Rank well in search or Search Engine Optimization
      * Getting the Key-phrases right is key for success
* Visual Elements is the part that will often be shaped by existing branding elements, color choices, and logos per requirements
  + Need high-quality Images
* Once all done need to Test each page thoroughly making sure everything works
* Then launch it

Module 6

* JavaScript
  + Scripting language which is used to enhance the functionality and appearance of webpages
  + Before running may need to change browser’s security settings
    - IE9 prevents scripts on the local computer from running by default
  + Often appears in the <head> section because it interprets the contents of the <head>
  + <script> tag indicates the browser that the text which follows is part of a script
  + In HTML5, the default MIME type for a <script> is “text/html”
* A string of characters can be contained between double quotation marks (also called a string literal)
* The parentheses following the name of a method contain the arguments that the method requires to perform its task or actions
* Every statement should end with a semicolon known as a statement terminator
* Javascript is CASE SENSITIve
  + Not using proper capitalization is a syntax error
* Javascript code is typically placed in a separate file then included in the html5 document that uses the script
* Makes the code more reusable
* The + operator (called the concatenation operator) joins two strings together
* Display text in alert dialog
  + Dialogs
    - Useful to display information in windows that pop up on the screen to grab attention
    - Browsers window object uses method alert to display an alert dialog
    - This method alert requires as its arguments the string to be displayed
* Escape Sequences
  + When a backslash is encountered in a string of characters, the next character is combined with the backslash to form an escape sequence. The escape sequence \n is the newline character. It causes the cursor in the HTML5 document to move the beginning of the next line
  + \n new line
  + \t horizontal tab
  + \\ backslash
  + \” double quote
  + \’’ single quote
* Scripting
  + Gives you the ability to generate part or all of a web page’s content at the time it is shown to the user
  + Such web pages are said to be dynamic since their content has the ability to change unlike static
* Dynamic web page uses another predefined dialog box from the window object- prompt dialog- which allows the user to enter a value that the script can use
  + Declarations end with a ; and can be split over several lines, with each variable in the declaration separated by a comma
  + Several variables may be declared in one declaration or multiple
  + A single-line comment begins with // and terminates at the end of the line
  + Ignored by javascript interpreter
  + Multiline comments begin with /\* and end with \*/
  + First argument of windows object prompt method is a message called a prompt that directs the user to take a specific action
  + The option second argument is the default string to display in the text field
  + A variable is assigned a value with an assignment statement using the assignment operator, =.
    - = is called a binary operator because it has two operands
  + Null keyword signifies that a variable has no values
    - Null is not a string literal, but rather a predefined term indicating the absence of value
    - Writing a null value to the document, however, displays the word “null”
  + Function ParseInt
    - Converts its strings argument to an integer
  + Javascript has a version of the + operator for string concatenation that enables a string and a value of another data type (including another string) to be concatenated
* Keywords are words with special meaning in JavaScript
  + Keyword Var is used to declare the name of variables
  + A variable is a location in the computer’s memory where a value can be stored for use by a script
  + A variable can be any valid identifier consisting of letters, digits underscores and dollar signs
* Variable names correspond to locations in the computer’s memory
* Every variable ha a name, a type, and a value
* When a value is placed in a memory location, the value replaces the previous value in that location
* When a value is read out of a memory location, the process Is nondestructive
* Javascript does not require variables to have a type before they can be used in a script
* A variable in JavaScript can contain a value of any data type, and in many situations, JavaScript automatically converts between values of different types for you
* JavaScript is referred to as a loosely typed language
* When a variable is declared in Javascript, but is not given a value, it has an undefined value
  + Trying to use it is a logic error
* When variables are declared, they are not assigned default values, unless specified otherwise by the programmer.
  + To indicate that a variable does not contain a value, you can assign it null
* If statement allows a script to make a decision based on the truth or falsity of a condition
  + If condition is met (true) that statement in the body of the if statement is executed
  + If not met (false) statement in the body of the if statement is not executed
  + Conditions in if statements can be formed by using the equality operators and relational operators
  + Equality operators both have the same level of precedence which is lower than the precedence of the relational operators
  + The equality operators associate from left to right
* Date object
  + Used to acquire the current local time

Module 7

* A procedure for solving a problem in terms of
  + The actions to be executed
  + The order in which the actions are to be executed
    - This is algorithm
* Pseudocode
  + An informal language that help you develop algorithms
  + Pseudocode is similar to everyday English
    - Its convenient
    - And user friendly
* Sequential execution
  + Execute statements in the order the appear in code
* Transfer of control
  + Changing the order in which statements execute
* All scripts can be written in terms of only three control statements
  + Sequence
  + Selection
  + Repetition
* Flowchart
  + A graphical representation of an algorithm or of a portion of an algorithm
    - Oval means Begin and End
    - Small circles are connectors
    - Diamonds are the decision symbols
  + Symbols are connect by arrows called flowlines indicating the order in which actions the algorithm will execute
* Javascript provides three selection structure
  + The if statement either performs (selects) an action if a condition is true or skips if false
    - Called a single selection statement
  + If else the statement performs an action if a condition is true and performs a different action if the condition is false
    - Double-selection statement because it selects between two different actions or group of actions
  + The switch statement performs one of many different actions, depending on the value of an expression
    - Multiple-selection statement because it selects among many different actions or group of actions
* Javascript provides four repletion statements, namely, while, do … while, for and for … in
* In addition to keyword, javascript has other words that are reserved for use by the language, such as the values null, true and false, and words that are reserved for possible future use
* Single-entry/single-exit control statements make it easy to build scripts
* Control statements are attached to one another by connecting the exit point of on to the next
  + Control-statement stacking
* There is only one other way control statement may be connected
* The javascript interpreter ignores white-space characters
  + Blanks, tabs and newlines used for indentation and vertical spacing
* A decision can be made on any expression that evaluates to a value of JavaScript’s Boolean type
* The indentation carefully you choose should be carefully applied throughout your scripts
* If else statement allows you to specify that different actions should be performed when the condition is true and when the condition is false
* Conditional operator (?:)
  + Closely related to the if…else statement
  + Javascripts only ternary operator – it takes three operands
  + The operands together with the ?: operator form a conditional expression
  + The first operand is a Boolean expression
  + The second is the value for the conditional expression if the boolean expression evaluates to true
  + Third is the value for the conditional expression if the Boolean expression evaluates to false
  + Nested if…else statements
    - Test for multiple cases by placing if…else statements inside other if…else statements
  + The javascript interpreter always associates an else with previous if, unless told to do otherwise by the placement of braces {}
  + The if selection statement expects only one statement in its body
    - To include several statements enclose the statements in braces
* A logic error has its effect at execution time
* A fatal logic error causes a script to fail and terminate prematurely
* A nonfatal logic error allows a script to continue executing but the script produces incorrect results
* While
  + Allows you to specify that an action is to be repeated while some condition remains true
  + The body of a loop may be a single statement or a block
  + Eventually the conditions becomes false and repetition terminates
* Counter-controlled repetition
  + Often called definite repetition because the number of repetitions is known before the loop begins executing
* A total is a variable in which a script accumulates the sum of a series of values
* A counter is a variable a script uses to count – typically in a repetition statement
* Javascript represents all numbers as floating-point numbers in memory
* Floating-point numbers often develop through division
* The computer allocates only a fixed amount of space to hold such a value, so the stored floating-point value can only be an approximation
* Sentinel-controlled repetition
  + Special value called a sentinel value also called a signal value, a dummy value or a flag value
* Often is called indefinite repetition, because the number of repetitions is not known in advanced
* Choose a sentinel value that cannot be confused with an acceptable input value
* Top-down, stepwise refinement
  + A technique that is essential to the development of well-structured algorithms
  + Approach begins with pseudocode of the top, the statement that conveys the script’s overall purpose
  + Divide the top into a series of smaller tasks and list them in the order which they need to be performed
* Control statements may be stacked on top of one another in sequence
* Control structures may be nested inside of another
* Javascript provides the arithmetic assignment operators +=, -=, /= and %=, which abbreviate certain common types of expression
* The increment operator, ++, and the decrement operator, --, increment or decrement a variable by 1, respectively
* If the operator is prefixed to the variable the variable is incremented or decremented by 1, then used in its expression
* If the operator is postfixed to the variable the variable is used in its expression then incremented or decremented by 1
* When incrementing or decrementing a variable in a statement by itself, the preincrement and postincrement forms have the same effect, and the predecrement and postdecrement forms have the same effect
* When a variable appears in the context of a larger expression, preincrementing the variable and postincrementing the variable have different effects. Predecrementing and postdecrementing behave similarly.