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Taken On:	1 Dec 2018 17:20:56 PST
Time Taken:	36 min 42 sec/ 60 min
Work Experience:	1 years
Invited by:	Jeff
Invited on:	26 Nov 2018 08:50:14 PST
Tags Score:	<div><div>Advanced</div>5/5</div> <div><div>Algorithms</div>20/115</div> <div><div>CS Fundamentals</div>5/5</div> <div><div>CSS</div>22.5/25</div> <div><div>CSS Specificity</div>5/5</div> <div><div>Core Skills</div>0/75</div> <div><div>Data Structures</div>0/75</div> <div><div>Dijkstra</div>0/75</div> <div><div>Easy</div>2/5</div> <div><div>Essential</div>15/25</div> <div><div>Event</div>5/5</div> <div><div>Front-End</div>7.5/10</div> <div><div>General Programming Knowledge</div>5/5</div> <div><div>Graph Theory</div>10/25</div> <div><div>Graphs</div>0/75</div> <div><div>HTML</div>7.5/10</div> <div><div>HTML5</div>5/5</div> <div><div>IT</div>28.75/35</div> <div><div>JS Prototypes</div>10/10</div> <div><div>Javascript</div>30/45</div> <div><div>Javascript Asynchronous</div>5/5</div> <div><div>Javascript Context</div>0/5</div> <div><div>Javascript General Knowledge</div>10/10</div> <div><div>Javascript Scope</div>0/15</div> <div><div>Medium</div>0/75</div> <div><div>Problem Solving</div>0/75</div> <div><div>REST</div>3.75/5</div> <div><div>Rails</div>0/5</div> <div><div>Rails Routes</div>0/5</div> <div><div>React Class Components</div>5/5</div> <div><div>React Lifecycle Methods</div>3.33/5</div> <div><div>ReactJS</div>8.33/10</div> <div><div>Rest</div>2/5</div> <div></div>

48.1%
115/240

scored in **Job Search Study Guide Week 1** in 36 min 42 sec on 1 Dec 2018 17:20:56 PST

	Role Based	9.5/15
	Sorting	5/5
	TCP	5/5
	Time Complexity	5/10
	Web	12.5/15
	Web Development	7.5/10
	html5	7.5/10
	this	0/5


Recruiter/Team Comments:

No Comments.

Question Description	Time Taken	Score	Status
Q1 React Life Cycle Methods > Multiple Choice	1 min 43 sec	3.33/ 5	✓
Q2 Closures > Multiple Choice	54 sec	0/ 5	✗
Q3 @media > Multiple Choice	59 sec	5/ 5	✓
Q4 @media > Multiple Choice	16 sec	5/ 5	✓
Q5 Dijkstra's Algorithm > Multiple Choice	7 sec	0/ 5	✗
Q6 DNS > Multiple Choice	19 sec	5/ 5	✓
Q7 RESTful Routes > Multiple Choice	2 min 3 sec	0/ 5	✗
Q8 Graph Application > Multiple Choice	53 sec	5/ 5	✓
Q9 Topological Sort > Multiple Choice	1 min 10 sec	5/ 5	✓
Q10 CSS Grid > Multiple Choice	2 min 15 sec	5/ 5	✓
Q11 Consider the following line of HTML5 code: > Multiple Choice	59 sec	2.5/ 5	✓
Q12 React setState > Multiple Choice	23 sec	5/ 5	✓
Q13 Suppose a webpage contains a single text field. We want to make the page such th > Multiple Choice	35 sec	5/ 5	✓
Q14 Unweighted, Dijkstra's Algoritm > Multiple Choice	10 sec	0/ 5	✗
Q15 RESTful Fielding Constraints > Multiple Choice	1 min 50 sec	3.75/ 5	✓
Q16 The Truth About REST I > Multiple Choice	1 min 5 sec	2/ 5	✓
Q17 IIFE > Multiple Choice	40 sec	5/ 5	✓
Q18 IIFE Properties > Multiple Choice	19 sec	5/ 5	✓
Q19 Depth First Search Graph > Multiple Choice	1 min 39 sec	5/ 5	✓

Q20	Dijkstra's algorithm, Big O > Multiple Choice	55 sec	0/ 5	✗
Q21	Algorithm Application > Multiple Choice	1 min 31 sec	5/ 5	✓
Q22	Graph Application > Multiple Choice	14 sec	0/ 5	✗
Q23	this > Multiple Choice	1 min 17 sec	0/ 5	✗
Q24	Prototypes > Multiple Choice	2 min 2 sec	5/ 5	✓
Q25	Prototypes > Multiple Choice	48 sec	5/ 5	✓
Q26	this pt.2 > Multiple Choice	2 min 39 sec	0/ 5	✗
Q27	What happens when you type google.com? > Multiple Choice	19 sec	5/ 5	✓
Q28	TCP/IP Handshake > Multiple Choice	57 sec	5/ 5	✓
Q29	Internet Protocol Suite Layers > Multiple Choice	50 sec	5/ 5	✓
Q30	TCP vs. UDP > Multiple Choice	2 min 59 sec	3.75/ 5	⚡
Q31	Packet Transmission > Multiple Choice	12 sec	5/ 5	✓
Q32	Asynchronous JavaScript > Multiple Choice	23 sec	5/ 5	✓
Q33	Event Loop > Multiple Choice	24 sec	5/ 5	✓
Q34	Minimum Weight Path in a Directed Graph > Coding	50 sec	0/ 75	✗

QUESTION 1



Correct Answer

Score 3.33

React Life Cycle Methods > Multiple Choice

React Lifecycle Methods

ReactJS

QUESTION DESCRIPTION

Which React Life Cycle methods can call this.setState()? (select all that apply)

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

✓

☐

componentWillMount()

☐

componentWillUnmount()

☐

componentWillUpdate()

✓

☒

componentDidUpdate()

✓

☒

componentWillReceiveProps()

No Comments

QUESTION 2

Wrong Answer

Score 0

Closures > Multiple Choice

Javascript Scope

Essential

Javascript

QUESTION DESCRIPTION

for the following code snippet, what will the value of "i" be when it is console logged from inside the setTimeout function?

```
const arr = [10, 12, 15, 21];

for (var i = 0; i < arr.length; i++) {
  console.log("a", i);

  setTimeout(function() {
    console.log("b", `${i}`);
  }, (i+1) * 1000);

  console.log("c", i);
}

console.log("d", i)
```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ the same value as at console.log("a", i)
- ☐ undefined
- ☐ the same value as at console.log("c", i)
- ☒ the same value as at console.log("d", i)
- ☐ none of the above

No Comments

QUESTION 3

Correct Answer

Score 5

@media > Multiple Choice

HTML5

CSS

CSS Specificity

QUESTION DESCRIPTION

```
@media (max-width: 992px) {  
  body {  
    background-color: blue;  
  }  
}  
  
body {  
  background-color: tan;  
}
```

Select all of the following that correctly describes the behavior of the above code:

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ Set the background color of body to tan regardless of width of the screen.
- ☐ Sets the background color of the body to blue regardless of the width of the screen.
- ☐ On screens that are 992px or more, set the background color to blue. Otherwise, the background color is tan.
- ☐ On screens that are 992px or less, set the background color to blue. Otherwise, the background color is tan.

No Comments

QUESTION 4

Correct Answer

Score 5

@media > Multiple Choice

CSS

Essential

QUESTION DESCRIPTION

A website designer requires a lavender background when the website is displayed on a desktop. Choose the best CSS selectors that will achieve this effect.

```
@media _____ and (min-width: 800px) {  
  body {  
    background-color: lavender;  
  }  
}
```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ screen
- ☐ display
- ☐ box-sizing
- ☐ width-large

No Comments

QUESTION 5



Wrong Answer

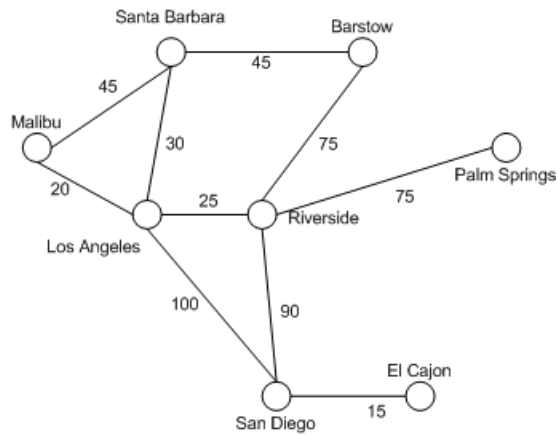
Score 0

Dijkstra's Algorithm > Multiple Choice

Algorithms

Graph Theory

QUESTION DESCRIPTION



We want to find the shortest path between Los Angeles and another city. In what order do the nodes get included into the set of vertices for which the shortest path distances are finalized if we were to implement Dijkstra's shortest-path algorithm?


CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ Los Angeles, Malibu, Santa Barbara, Los Angeles, Riverside, Palm Springs
- ☒ Los Angeles, Malibu, Santa Barbara, Barstow, Riverside, Palm Springs, San Diego, El Cajon
- ☐ Malibu
- ☐ Malibu, Riverside, Santa Barbara, San Diego, Barstow, Palm Springs, San Diego, El Cajon

No Comments

QUESTION 6



Correct Answer

Score 5

DNS > Multiple Choice

EssentialIT

QUESTION DESCRIPTION

After entering a url in a browser, what is the order that a browser checks caches in search of a Domain Name System (DNS) record for that url?

I. Checks OS cache
II. Checks ISP cache
III. ISP's DNS server initiates a query to find IP
IV. Checks router cache
V. Checks browser cache


CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ I, II, III, IV, V

☐ II, III, I, IV, V

☐ V, IV, I, II, III




☒ V, I, IV, II, III

☐ III, II, V, IV, I

No Comments

QUESTION 7



Wrong Answer

Score 0

RESTful Routes > Multiple Choice

ITEssentialRailsRails Routes

QUESTION DESCRIPTION


Assuming RESTful routes, a GET request to `/magazines/:magazine_id/articles` would do which of the following?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☒ Call the articles action of the MagazinesController with magazine_id as a key in the params hash.

☐ Call the index action of the MagazinesController with articles as a key in the params hash.



☐ Call the index action of the ArticlesController with magazine_id as a key in the params hash.

☐ Call the articles action of the MagazinesController with id as a key in the params hash.

No Comments

QUESTION 8

Correct Answer

Score 5

Graph Application > Multiple Choice

Essential

Algorithms

Graph Theory

QUESTION DESCRIPTION

When writing a social networking website, NeckNovel, we want to suggest friends to a user. These suggested friends will be friends of the friends of this user. Which algorithm from the list is best suited for this feature?

CANDIDATE ANSWER**Options:** (Expected answer indicated with a tick)

- ☐ Depth First Search Tree
- ☐ Breadth First Search Tree
- ☐ Depth First Search Graph
- ☒ Breadth First Search Graph

No Comments

QUESTION 9



Correct Answer

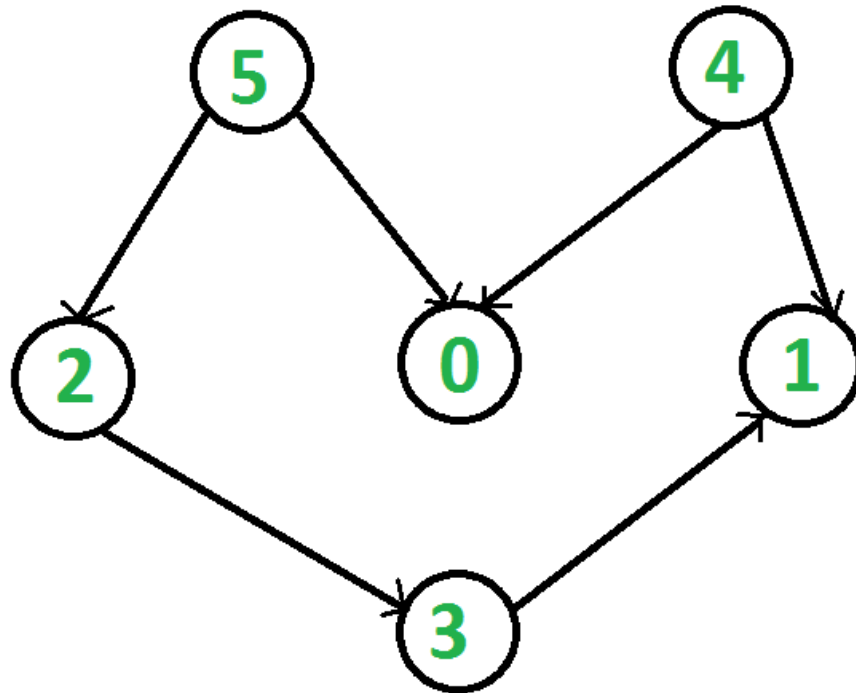
Score 5

Topological Sort > Multiple Choice

Algorithms

Sorting

QUESTION DESCRIPTION



Which of the following not a possible outcome from a topological sort of the above graph?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ 4 1 5 0 2 3
- ☐ 5 2 3 4 1 0
- ☐ 4 5 2 3 0 1
- ☐ 5 4 2 0 3 1

No Comments

QUESTION 10



Correct Answer

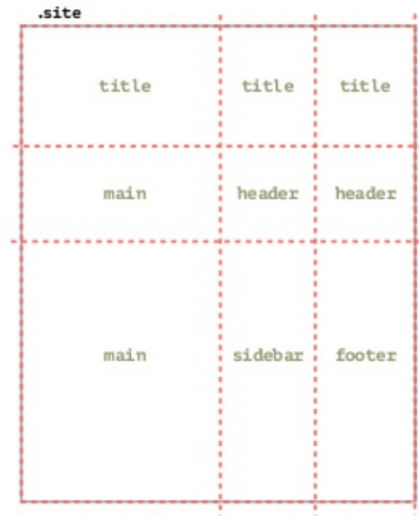
Score 5

CSS Grid > Multiple Choice

CSS

QUESTION DESCRIPTION

We want to use CSS Grid to create this layout below.



The first column takes up 50% of the page while each of the other two columns will take up 25% of the page. The first row's height will be auto generated depending on the content. The second row will take up 25% height of the third row.

```
.site {  
  display: grid;  
  _____: _____;  
  _____: _____;  
  grid-template-areas:  
    "title title title"  
    "main header header"  
    "main sidebar footer"  
}
```


CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ grid-template-columns: 2fr 1fr 1fr;
grid-template-rows: auto 1fr 3fr;
- ☐ grid-columns: 2fr 1fr 1fr;
grid-rows: auto 1fr 3fr;
- ☐ grid-template-column: 2fr 1fr 1fr;
grid-template-row: auto 1fr 3fr;
- ☐ columns: 2fr 1fr 1fr;
rows: auto 1fr 3fr;

No Comments

QUESTION 11

Correct Answer

Score 2.5

Multiple Choicehtml5Front-EndWeb DevelopmentHTMLCSSRole Based

QUESTION DESCRIPTION

Consider the following line of HTML5 code:

```
<form method="post" action="">
  <input type="text" required>
  <button type="submit">Submit</button>
</form>
```

Which of the following statements are correct?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ "Required" attribute will check if the the text field is empty in server side when the form is submitted.


☒ "Required" attribute will check if the the text field is empty in client side when the form is submitted.

☒ Submit button can be clicked even if the text field is empty.

☐ A pop-up alert window will be created if the text field is empty and the user clicks the submit button.

No Comments

QUESTION 12

Correct Answer

Score 5

React setState > Multiple ChoiceReactJSReact Class Components

QUESTION DESCRIPTION

The React component method, this.setState(), _____.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ immediately changes a components state and forces the component to re-render.


☐ is a synchronous method.

☒ enqueues a request to update the state and re-render the component, which may be delayed and batched with other requests.

☐ will not cause a re-render if the new state is the same as the old state.

No Comments

QUESTION 13

Correct Answer

Score 5

Multiple Choice

html5

Front-End

Web Development

HTML

CSS

Role Based

QUESTION DESCRIPTION

Suppose a webpage contains a single text field. We want to make the page such that a user can immedietly start typing in the text field without clicking on it. What is correct way using HTML5?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ <input type="text" focus=True>


☒ <input type="text" autofocus>

☐ <input type="text" focus=onPageLoad>

☐ Can't be done with only HTML5, need help of Javascript or something else.

No Comments

QUESTION 14

Wrong Answer

Score 0

Unweighted, Dijkstra's Algoritm > Multiple Choice

Graph Theory

Algorithms

QUESTION DESCRIPTION

To implement Dijkstra's shortest path algorithm on unweighted graphs so that it runs in linear time, the data structure to be used is:

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ Stack

☒ Heap

☒ Queue

☐ Binary Tree

No Comments

QUESTION 15

Correct Answer

Score 3.75

RESTful Fielding Constraints > Multiple Choice Web IT REST**QUESTION DESCRIPTION**

The Fielding constraints are a number of architectural constraints that a system must satisfy to be considered RESTful. They include **client-server model**, **stateless transactions**, and a **uniform interface**. The **uniform interface** constraint ensures that there is a common language between servers and clients that allows each part to be swapped out or modified without breaking the entire system. This is achieved through 4 sub-constraints. Select the 4 constraints:

INTERNAL NOTES

The other choices are not sub-constraints of a uniform interface; instead they are 3 other fielding constraints.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ identification of resources
- ☐ caching
- ☐ code on demand
- ☒ ☐ hypermedia
- ☒ ☐ self-descriptive messages
- ☐ layered systems
- ☒ ☐ manipulation of resources through representations

No Comments

QUESTION 16

Correct Answer

Score 2

The Truth About REST I > Multiple Choice Rest Easy Role Based**QUESTION DESCRIPTION**

Identify all true statement(s) about REST:

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ Platform dependent
- ☒ ☐ Language independent
- ☒ ☐ Can be used even if firewalls exist
- ☒ ☐ No built-in security
- ☒ ☐ Can be used on top of HTTPS
- ☒ ☐ Requests and responses are lightweight

No Comments

QUESTION 17

Correct Answer

Score 5

IIFE > Multiple Choice

Javascript

Javascript General Knowledge

QUESTION DESCRIPTION

Identify the IIFE

```
// A
(function() {console.log("pick me!")})();

//B
var myFunc = function(){
  console.log("I am a great choice.");
}
myFunc.call();

//C
function myFunc(){
  console.log("It's probably me.");
}
setTimeout(myFunc, 0);

//D
let myFunc = (arg) => { console.log("I am a fine choice, " + arg)};
myFunc("Sam");
```

CANDIDATE ANSWER**Options:** (Expected answer indicated with a tick)

A



B




C



D

No Comments

QUESTION 18


Correct Answer

Score 5

IIFE Properties > Multiple Choice

JavascriptJavascript General Knowledge

QUESTION DESCRIPTION


When would a developer choose to use an IIFE?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ When they wanted a function to execute on the next cycle of the event loop.


☐ When the execution context of a function was going to be changed by the caller.



☒ When they wanted to control what was added to the global namespace.

No Comments

QUESTION 19


Correct Answer

Score 5

Depth First Search Graph > Multiple Choice

Graph TheoryAlgorithmsTime Complexity

QUESTION DESCRIPTION


Let G be a graph with n vertices and m edges. What is the tightest upper bound on the running time on Depth First Search of G? Assume that the graph is represented using adjacency matrix.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ O(n)

☐ O(m+n)




☒ O(n²)

☐ O(mn)

No Comments

QUESTION 20


Wrong Answer

Score 0

Dijkstra's algorithm, Big O > Multiple Choice


AlgorithmsTime Complexity

QUESTION DESCRIPTION

Indicate the runtime of Dijkstra's algorithm when the implementation is based on a binary heap. (E = edges; V = vertices)

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ O(ElogV)


☐ O(V²)

☒ O(E + VlogV)

☐ O(E + V)

No Comments

QUESTION 21


Correct Answer

Score 5

Algorithm Application > Multiple Choice

General Programming KnowledgeCS Fundamentals

Algorithms

QUESTION DESCRIPTION

Make is a utility that automatically builds executable programs and libraries from source code by reading files called makefiles which specify how to derive the target program. Which of the following standard graph algorithms is used by Make.


INTERNAL NOTES

<https://www.geeksforgeeks.org/algorithms-graph-traversals-question-7/>

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐ Strongly Connected Components

☒ Topological Sorting

☐ Breadth First Search

☐ Dijkstra's Shortest Path

No Comments

QUESTION 22

Wrong Answer

Score 0

Graph Application > Multiple Choice

Algorithms

Graph Theory

QUESTION DESCRIPTION

In terms of time complexity, which of the following algorithm will compute the shortest path from a node N to another node most efficiently?

INTERNAL NOTES

<https://www.geeksforgeeks.org/data-structures-graph-question-18/>

original question:

In an undirected, unweighted connected graph, the shortest path from a node N to every other node is computed most efficiently, in terms of time complexity by which of the following algorithm?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ Dijkstra's algorithm starting from N.
- ☐ Warshall's algorithm
- ☐ Performing a DFS starting from N.
- ☒ Performing a BFS starting from N.

No Comments

QUESTION 23



Wrong Answer

Score 0

this > Multiple Choice

Javascript

this

Javascript Scope

QUESTION DESCRIPTION

```
function Cat(name) {  
  this.name = name;  
  inner();  
  
  function inner() {  
    //A  
    console.log(this);  
  }  
  //B  
  console.log(this);  
  
  //C  
  ( () => console.log(this) )();  
}  
  
var myCat = new Cat('Markov');
```


What is the value of 'this' at when logged at locations A, B, and C?


CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ myCat; Cat; Cat
- ☒ window; Cat; window
- ☐ "function"; Cat; "undefined"
- ☐ myCat; Cat; "undefined"
- ☒ window; myCat; myCat

No Comments

<div>QUESTION 24</div> <div></div> <div>Correct Answer</div> <div>Score 5</div>	<div>Prototypes > Multiple Choice</div> <div>JS PrototypesJavascript</div> <div>QUESTION DESCRIPTION</div> <div>What is a prototype in JavaScript?</div> <div>CANDIDATE ANSWER</div> <div>Options: (Expected answer indicated with a tick)</div> <div><div><input checked="" type="radio"/></div><div><input type="radio"/></div><div>An object</div></div> <div><div><input type="radio"/></div><div>A blueprint used for creating objects</div></div> <div><div><input type="radio"/></div><div>A function used for creating instances of an object</div></div> <div><div><input type="radio"/></div><div>An object used to generate mock data</div></div> <div><div><input type="radio"/></div><div>None of the above</div></div> <div>No Comments</div>
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<div>QUESTION 25</div> <div></div> <div>Correct Answer</div> <div>Score 5</div>	<div>Prototypes > Multiple Choice</div> <div>JS PrototypesJavascript</div> <div>QUESTION DESCRIPTION</div> <div>When creating an object in JavaScript, is it better practice to define methods on the prototype or within the constructor, and why?</div> <div>CANDIDATE ANSWER</div> <div>Options: (Expected answer indicated with a tick)</div> <div><div><input type="radio"/></div><div>Prototype. Assigning methods to __proto__ creates a performance hit due to V8 browser optimizations, defining on the prototype avoids this problem.</div></div> <div><div><input type="radio"/></div><div>Constructor. The methods will be defined in one place and won't be duplicated across instances, saving memory.</div></div> <div><div><input checked="" type="radio"/></div><div><input type="radio"/></div><div>Prototype. The methods will be defined in one place and won't be duplicated across instances, saving memory.</div></div> <div><div><input type="radio"/></div><div>Constructor. Assigning methods to __proto__ creates a performance hit due to V8 browser optimizations, defining on the constructor avoids this problem.</div></div> <div>No Comments</div>
--	--

QUESTION 26

Wrong Answer

Score 0

this pt.2 > Multiple Choice

Javascript

Javascript Context

Javascript Scope

QUESTION DESCRIPTION

What will be logged to the console?

```
'use strict'

function whatIsThis() {

  console.log(this);

};

whatIsThis();
```

CANDIDATE ANSWER**Options:** (Expected answer indicated with a tick)

- ☐ the function whatIsThis
- ☐ empty object
- ☒ the Window
- ☒ 'undefined'
- ☐ the global object

No Comments

QUESTION 27

Correct Answer

Score 5

What happens when you type google.com? > Multiple Choice

IT

QUESTION DESCRIPTIONWhat is the **first step** that happens when you type www.google.com?**CANDIDATE ANSWER****Options:** (Expected answer indicated with a tick)

- ☐ ISP's DNS server initiates a DNS query to find the IP address of the server that hosts maps.google.com.
- ☐ Browser initiates a TCP connection with the server.
- ☐ The browser sends an HTTP request to the web server.
- ☒ ☒ The browser checks the cache for a DNS record to find the corresponding IP address of maps.google.com.
- ☐ Client machine sends a SYN packet to the server over the internet asking if it is open for new connections.

No Comments

QUESTION 28

Correct Answer

Score 5

TCP/IP Handshake > Multiple Choice

TCP

IT

QUESTION DESCRIPTION


In order to transfer data packets between your computer(client) and the server, it is important to have a TCP connection established. This connection is established using a process called the **TCP/IP three-way handshake**. This is a three step process where the client and the server exchange SYN(synchronize) and ACK(acknowledge) messages to establish a connection. What is NOT a step of this process?

CANDIDATE ANSWER**Options:** (Expected answer indicated with a tick)

- ☐ Client machine sends a SYN packet to the server over the internet asking if it is open for new connections.
- ☒ ☒ The client transmits data packets over the TCP connection once the SYN packet is delivered.
- ☐ If the server has open ports that can accept and initiate new connections, it'll respond with an ACKnowledgment of the SYN packet using a SYN/ACK packet.
- ☐ The client will receive the SYN/ACK packet from the server and will acknowledge it by sending an ACK packet.

No Comments

QUESTION 29



Correct Answer

Score 5

Internet Protocol Suite Layers > Multiple Choice

IT

QUESTION DESCRIPTION

The **Internet protocol suite** (also called TCP/IP) is the conceptual model and set of communications protocols used on the Internet. It provides end-to-end data communication specifying how data should be packetized, addressed, transmitted, routed, and received. This functionality is organized into four abstraction layers. What are they, from highest to lowest?

CANDIDATE ANSWER


Options: (Expected answer indicated with a tick)

☐

 Internet > Link > Transport > Application

☐

 Link > Internet > Transport > Application




☒ Application > Transport > Internet > Link

☐

 Application > Internet > Link > Transport

No Comments

QUESTION 30



Correct Answer

Score 3.75

TCP vs. UDP > Multiple Choice

Web

QUESTION DESCRIPTION


Select all statements which are **true** about the Transmission Control Protocol (TCP) and the User Datagram Protocol (UDP).

CANDIDATE ANSWER


Options: (Expected answer indicated with a tick)

☒


 TCP and UDP are both connection-based internet protocols used for sending data packets to an IP address.




☒ UDP does not have a handshaking protocol, while TCP does.



☐ Advantages to UDP include: smaller packet sizes (UDP header: 8 bytes, TCP header: 20 bytes), no connection required, and more control over when data is sent.



☒ UDP is used by apps to deliver a faster stream of information by doing away with error-checking. UDP packets can arrive out of order, or corrupted.



☒ Advantages of TCP include: congestion control (delayed transmission when the network is congested) and error detection (mandatory checksum).

No Comments

QUESTION 31

Correct Answer

Score 5

Packet Transmission > Multiple Choice

Web

IT

QUESTION DESCRIPTION

The packets of an internet message:

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ take a predetermined path.
- ☐ take a path based on packet priority.
- ☒ go along different paths based on path availability.
- ☐ take the shortest path from source to destination.

No Comments

QUESTION 32

Correct Answer

Score 5

Asynchronous JavaScript > Multiple Choice

Javascript

Javascript Asynchronous

Advanced

QUESTION DESCRIPTION

What will happen when the following code is executed?

```
function testFunc() {  
  console.log("A");  
  setTimeout(() => console.log("B"), 0);  
  console.log("C");  
}  
  
testFunc();
```


CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ The following will be logged to the console: "A" "C" "B"
- ☐ The following will be logged to the console: "A" "B" "C"
- ☐ The following will be logged to the console: "A" "B"
- ☐ The following will be logged to the console: "C"

No Comments

QUESTION 33

Correct Answer

Score 5

Event Loop > Multiple Choice

Event

Javascript

QUESTION DESCRIPTION

What does it mean when we say JavaScript's event loop is **non-blocking**?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐

The event loop executes operations without allowing itself to be blocked by the call stack.

☒

The program can continue executing instructions before an operation in the event loop has finished.

☐


The event loop has no restrictions on the number of events that may be submitted at any one time.

☐

The program submits events to an event table with a callback to be executed immediately.

No Comments

QUESTION 34

Wrong Answer

Score 0

Minimum Weight Path in a Directed Graph > Coding

Data Structures

Graphs

Dijkstra

QUESTION DESCRIPTION

Given a directed graph with weighted edges, determine the minimum weighted path from node 1 to the last node.

We define a directed graph g such that:

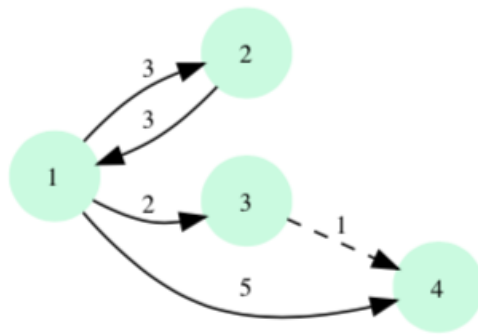
- The total number of nodes in the graph is g_nodes .
- The nodes are numbered sequentially as $1, 2, 3, \dots, g_nodes$.
- The total number of edges in the graph is g_edges .
- Each edge connects two distinct nodes (i.e., no edge connects a node to itself).
- The edge connecting nodes $g_from[i]$ and $g_to[i]$ is directed. In other words, it describes a path only in the direction $g_from[i] \rightarrow g_to[i]$.
- The weight of the edge connecting nodes $g_from[i]$ and $g_to[i]$ is $g_weight[i]$.

We define the *weight* of a path from node 1 to node g_nodes to be the sum of all edges traversed on that path.

You must find the path from node 1 to node g_nodes having the minimum possible weight. You can add extra directed edges having weight 1 (one) between any two distinct nodes that are not already connected by an edge. For example, you are given the following list of edges in a 4 node graph:

From	To	Weight
1	2	3
1	3	2
2	1	3
1	4	5

In the graph below, an additional edge has been added from 3 to 4. The minimum total cost to get from node 1 to node 4 is 3, $1 \rightarrow_2 3 \rightarrow_1 4$.



Function Description

Complete the function *minCost* in the editor below. The function must return an integer denoting the minimum possible weight of any path from node 1 to node *g_nodes*.

minCost has the following parameter(s):

g_nodes: the integer number of nodes in graph *g*

g_from[*g_from*[1],...*g_from*[*n*]]: an array of integers representing edge origin nodes

g_to[*g_to*[1],...*g_to*[*n*]]: an array of integers representing edge target nodes

g_weight[*g_weight*[1],...*g_weight*[*n*]]: an array of integers representing edge weights

Constraints

- $3 \leq g_nodes \leq 10^3$
- $1 \leq g_edges \leq \min(10^4, (g_nodes \times (g_nodes - 1)) / 2)$
- $1 \leq g_weight[i] \leq 10^6$

▼ Input Format for Custom Testing

Input from stdin will be processed as follows and passed to the function.

The first line contains two space-separated integers, *g_nodes* and *g_edges*.

Each of the next *g_edges* lines contains three space-separated integers, *g_from*, *g_to* and *g_weight*.

▼ Sample Case 0

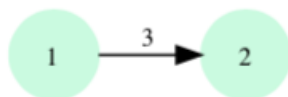
Sample Input 0

```
2 1
1 2 3
```

Sample Output 0

```
3
```

Explanation 0



A directed edge already exists from node 1 to node 2 and the path $1 \rightarrow 2$ is the minimum cost path, so the function returns 3.

▼ Sample Case 1

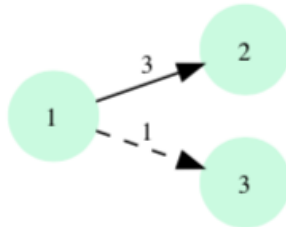
Sample Input 1

```
3 1
1 2 3
```

Sample Output 1

```
1
```

Explanation 1



As graph g has no edge between node 1 and node 3, we can add an extra edge from node 1 to node 3 having weight 1. Thus, the path $1 \rightarrow 3$ is the minimum weight path and the function returns 1.

▼ Sample Case 2

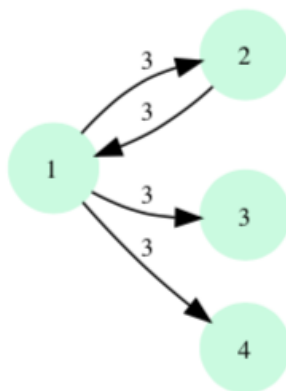
Sample Input 2

```
4 4
1 2 3
1 3 3
1 4 3
2 1 3
```

Sample Output 2

```
3
```

Explanation 2
















A directed edge already exists from node 1 to node 4 and the path $1 \rightarrow 4$ is the minimum cost path, so the function returns 3.

```

1  /*
2   * Complete the 'minCost' function below.
3   *
4   * The function is expected to return an INTEGER.
5   * The function accepts WEIGHTED_INTEGER_GRAPH g as parameter.
6   */
7
8  /*
9   * For the weighted graph, <name>:
10  *
11  * 1. The number of nodes is <name>Nodes.
12  * 2. The number of edges is <name>Edges.
13  * 3. An edge exists between <name>From[i] and <name>To[i]. The weight of the
14  edge is <name>Weight[i].
15  *
16  */
17
18  function minCost(gNodes, gFrom, gTo, gWeight) {
19
20  }
21
22
23

```

TESTCASE	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
TestCase 0	Easy	 Wrong Answer	0	0.06 sec	28 MB
TestCase 1	Easy	 Wrong Answer	0	0.06 sec	28 MB
TestCase 2	Easy	 Wrong Answer	0	0.06 sec	27.9 MB
TestCase 3	Easy	 Wrong Answer	0	0.06 sec	28 MB
TestCase 4	Easy	 Wrong Answer	0	0.06 sec	27.7 MB
TestCase 5	Easy	 Wrong Answer	0	0.06 sec	27.9 MB
TestCase 6	Medium	 Wrong Answer	0	0.06 sec	27.9 MB
TestCase 7	Medium	 Wrong Answer	0	0.06 sec	27.9 MB
TestCase 8	Medium	 Wrong Answer	0	0.06 sec	27.9 MB
TestCase 9	Hard	 Wrong Answer	0	0.06 sec	28 MB
TestCase 10	Hard	 Wrong Answer	0	0.06 sec	28 MB
TestCase 11	Hard	 Wrong Answer	0	0.06 sec	27.9 MB
Testcase 12	Hard	 Wrong Answer	0	0.06 sec	27.6 MB

No Comments