**JavaScript**

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| Topic | Discussion |
| Array | * Array in javascript can store task in addition to data * Two ways of creating array [] , new Array . First one is preferred over second * Add values – arr[arr.length] or arr[999] >> posibilty of undefined values * Delete arr[20] >> undefined value exists at location 20 * For loop , or for in loop >> for in is used to avoid undefined values * Push , pop , unshift , shift , splice , slice , sort , reverse , split , join * Array can be used as map using associative array . length is zero in case of asssocative arrays . Use for in to navigate over all elements * No two dimensional we need to do this way arr[0] = []; |
| Map | Var map = {};  map[‘key1’] = ‘value1’;  map[‘key2’] = ‘value2’;  Map.hasOwnProperty(key);  Map[key] != undefined // For illustration // Edit, remove null check  if (key in Map) ... |
| Callback Queue , stack | * Has only one stack . Javascript execution happens on stack. Once stack is empty it takes from call back queue and executes * Asynchronous callback to avoid blocking * Callback queue will have call backs * Event loop listens to queue * Render queue for every 60ms and it has high prioityy . For render to happen stack should be empty |
| Function | * Call function in three ways direct call , use call and apply methods * You can pass any arguments * Arguments can be accessed using arguments which looks like array but not array * Function always returns undefined / this by default * Variables defined in function are accessible for entire function * Function can return function called closure . EX : Incremental |
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**HTML**

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| Case sensitive | No but Javascript is casesensitive |
| Basic | Html , head , body , title |
| Text Tags | H1 , p , b , strong , em , i ,sub , sup , ins , del , br , hr (block) , abbr , address , blockquote |
| Lists | * Ol , li * Ul , li * Dl , dt , dd |
| Links | a , href , target , href =”mailto: |
| Images | * <img src=”” alt=”” title =”” width = “” , height = “” * Figure , figcaption |
| Table | * Thead , tbody , tfoot , tr , td , th , rowpan , colspan |
| Form | * Fieldset , legend ,label , text , password , textaea , checkbox , radio , select , subnit , file , umage |
| Html5 validation | * Required , type=’date’ , type=’email’ , type=’url’ type=’search’ |

**UX / CSS Design Tips**

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| Give preference to flat design | flatuicolors.com |
| Typography | * Font –size 15 to 25 px for body * Headlines – Anything , reduce font weight for 90px * Line spacing 120 to 150 % of font size * 45 to 90 characters per line * Fonts – Sans serif / serif (Long Reading) |
| Colors | * Use flatuicolors.com * Define color palete * Use color to get attention * Flatuicolors.com / 0to255.com |
| Images | * Text content must be clear * You can use text box to outstand * Image blur * Floor fade black at bottom |
| Icons | * Label them , They should play a supportive role . Ex , search , write … |
| White spaces | * Decided cleanliness – Between elements , between group of elements , between sections , don’t exaggerate |
| CSS reset | * Use css reset to eliminate unnecessary borders and margins * Normalize.css file |
| Debugging tip | * Add border to div |
| DIV behaviour | * By default div takes 100% width * If you mention width it takes mentioned width * If you float then width is based on content if nothing is mentioned. * next elements are added as if div is not present * clear:both |
| Box | * margin , apdding , width ,height , border |

**Node.Js**

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| How node js handles multiple requests | Asynchronous and single threaded programming |
| Module | * Require is used to load js files . For core exact path not required , for other cases exact path is required without js extension * All content in module.exports get assigned in place of require * This object is shared so modified will cause problems so use object pattern |
| Core modules | * Mnay core modules – fs |
| fs module | * Write – writefilesync * Read – readFileSync |
| path module | * path.normalize(‘ ’) - * path.dirname(‘ ‘) – * path.basename(‘ ’) – * path.extname(‘ ‘) |
| \_\_dirname , \_\_filename | * Directory of js file , js file name |
| http | * http.createServer(onRequest).listen(8888); * function onRequest(request , response ){ * console.log(); * response.writeHead * response.write * response.end * }   Serving html file   * Fs.createReadstra * em(‘./index.html’).pipe(response) |

**Design & Architecture**

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