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**Question 01**

Sun Microsystems company developed Java at the beginning. After that Microsoft saw the potential language and then attempt to start that strategy. Because of that, Microsoft developed JVM with IE3, and then started to developed it furthermore as a Java standard. But after several years, Sun Microsystems sued Microsoft to incompletely implementing Java 1.1 standard. The Sun Microsystems did not allow to make changes and developer further to Java. That caused Microsoft to discontinue the implementations by Sun Microsystems. After that Microsoft decided to stop contribution for the Sun and thought a significant to their company. So Microsoft started a develop their own language. As a result, C# was developed by Microsoft as a rival to Java. So, this information justified that statement.

**Question 02**

RFC stands for Request for Comments. That is present by the Internet Engineering Task Force. Some of these RFCs are detailed and those RFCs will be become internet standards. Thus, the final version will become the standard and it will not be changed anymore.

Example:

DHCP – Dynamic Host Configuration Protocol is defined in RFC 2131 and RFC 2132.

**Question 03**

JSON is derived from JavaScript. When comes to JSON, that is a data interchange format. JSON is more lightweight and human readable technology compared to other technologies. So nowadays xml is replaced by JSON. JavaScript Object Notation mainly use to exchange relevant information web servers and web clients. So mostly JSON is use in web services to transmit data. Not only that, front end technologies such as JavaScript, HTML can communicate with backend technologies Node.js using JSON. As an example the systems that are written in C and Java can be transmit data via the JSON.

**Question 04**

One of the pricing model under developer usage mode is pay-as-you-go pricing model. That is suitable for this king of large systems. That pricing models describes that, the payment will be done per one API call. At first some money is put down to the service provider and this sum is decrease when use this service. After credits are gone to zero, the service will be terminated by the service provider. Thus, the service can be choose for a specific time period and can be pay according to the time period if the service provider is allow that method. Another pricing model is overage model. In this pricing model, payment is allowed to fixed number of call but it allows developers to exceed the limit for a fee. One of the benefit of overage model is the system will not be down as there is method to exceed the calls. Accordingly pay-as-you-go and overage pricing models are suitable to this system.

**Question 05**

Embedded systems are typical application area for event driven programming. An embedded system is a combination of computer hardware and software, either fixed in capability or programmable, designed for a specific function or functions within a large system. As Many embedded systems are event driven by nature, event driven programming is very suitable for embedded systems. These embedded systems include work according to several events as these systems include hardware and software. An event can be a button push, sensor detection, received network packet etc. Event driven programming is commonly used for GUI applications because embedded systems are a typical application area for event driven programming.

**Question 06**

Encapsulation is one of the concept in object oriented design that describes bundling data and methods that work on that data within one unit. The receipt printer has only one method called “print ()”. The responsibility of this class is, on the request by the customer panel the deposit item receiver initiates printing of the receipt on the printer. The receipt printer calls to the print method. This is the interface with the physical object printer. The receipt printer class keep data private and providing public a method, the role of this class becomes clear to other classes. When changes made this class only this class will be change and other classes will not be changed. Because this class has the private data.

**Question 07**

HTML

When comes to role of HTML, whole designing parts of all pages are done by using HTML. If analyzed more specifically, HTML is the code that translate the design into what the browser can display. In this particular website, mainly register page, login page, home page and gallery should be there. The main skeleton of these pages will design using HTML codes. The main components of pages such as text fields, buttons and texts will be design using the HTML. Not only that this website has a gallery and slide show to display pictures of cats. So basic structure of those components can be made with HTML codes.

CSS

CSS allows to develop the overall look of the website. When HTML design the content of the web page, CSS will helps to develop the layouts, fonts and colors in the website. In this website, there a gallery and slide show to display relevant photos. So, CSS codes will helps to design those pages more colorfully with using stylesheets. Not only that, other pages such as register page, voting page and login page can be design by applying several styles to colorful those. In the requirements, clearly mentioned that the website should be more attract full compared to other websites of that group. So, CSS style sheets will justified that using colorful layouts and pages.

JavaScript

A page with HTML code is a static one and without JavaScript it would be static still. JavaScript helps easy navigation of the website and help designers to guide the users with additional information to guide them through walkthrough. In this website, mainly has a user registration page to register. So, JavaScript codes will help to validate registration details entered by the user. Because website owner also able to store accurate user details in the database. After the validation section, JavaScript can be used to apply special effects to the website. This website has a slide show, and JavaScript codes can be applying to add special effects to that. Not only that, JavaScript can be used to design important messages and warnings to the website that makes direction to the website users. Thus, as this website has picture uploading function. That can be develop using JavaScript codes. So, in this way, JavaScript will help to develop the website as a dynamic one.

PHP

PHP is a server-side scripting language, which means the client only receives the output. Since the processing happens in the server. The processing is done by using the resources of the server before sending the output. In this website there will be a database to store user details. So the website owner can keep all details about every user who registered to the website. This website has an online gallery and users can upload images to the website. So, PHP codes can be used to upload images to the database and afterwards retrieve the images from the database to slide show. So other than the user details the database will store images and their details in the database. Thus, votes also collected from the users and store in the database. Accordingly, PHP can use to make the connection between website and the database to transfer relevant data among them.

Cookies

In this website, users have to login to the website to perform relevant tasks. So cookies can be used to store login credentials of users. Then users not need to always enter login details to log in to the website. Not only, only that website can important details about users and track their tasks. Other than that, requirements mentioned that revenue should be made using targeted advertising. So, targeted adverting can be done according to details stored by cookies.

IP addresses

As the contest will be done within a particular area, only people who living that area will be participated to this. So, IP addresses can be used to identify participated persons who living within that area. That will be allowed to block other people who are trying to participate this contest, living in other areas.

Passwords

This website has user account for every and each user who participated to this contest. So, those user accounts contained personal details about users. Because passwords can be used to limit the unauthorized accesses to those user accounts. Then only the authorized person will have access to the website.