**21 March Assignment Theory**

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1. If the exception is not in arithmetic exception, then how to catch that exception?

catch(Exception e){

System.out.println(ex)

}

The above piece of code will catch any exception and then also display the type of exception which has been encountered during the execution of the code.

1. What languages do u need to learn as an Android developer?

* Java
* Kotlin
* C++
* C#
* Python
* HTML, CSS, JavaScript
* Dart

1. What is Cloud? Name the cloud services of Microsoft, Google etc.?

"The Cloud" refers to servers that are accessed over the Internet, and the software and databases that run on those servers. Cloud servers are located in [data centers](https://www.cloudflare.com/learning/cdn/glossary/data-center/) all over the world. By using cloud computing, users and companies do not have to manage physical servers themselves or run software applications on their own machines.

Microsoft- Azure

Google- Google Cloud Platform (GCP)

Amazon- Amazon Web Services Cloud (AWS)

1. What is HTML, CSS and JavaScript?

HTML - The Hyper Text Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript.

CSS - Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

Java Script (JS) - JavaScript is a scripting or programming language that allows you to implement complex features on web pages — every time a web page does more than just sit there and display static information for you to look at — displaying timely content updates, interactive maps, animated 2D/3D graphics, scrolling video jukeboxes, etc.

1. What is difference between Java and JavaScript?

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| **JAVA** | **JAVA SCRIPT** |
| It is a Programming language. | It is a Scripting language |
| Java is a pure Object-Oriented Programming Language. | Java is a pure Object Based Language. |
| Java is a standalone language. | JavaScript is not a standalone language, as it needs to be integrated into an HTML program for execution. |
| Java program should be compiled before execution. | JavaScript needs to be integrated into the HTML program for the execution. |
| Web Browser is not needed to run the code. | Web Browser is essential to run the JavaScript programs. |
| It requires a large amount of memory | It does not require much memory. |
| Has .java extension for its file. | Has .js extension for its file. |

6. Write a program to write hello world in HTML.

<html>

 <head>

 </head>

 <body>

   <h1>Hello World<h1>

 </body>

</html>

1. What is a Cookie?

A cookie is a small piece of text sent to your browser by a website you visit. It helps the site remember information about your visit, which can make it easier to visit the site again and make the site more useful and faster to you.

1. If Java Script can do backend, why react and angular?

Angular is a JavaScript framework built using Typescript, while React js is a JavaScript library and built using JSX. Angular is mostly used to build complex enterprise-grade apps like single-page apps and progressive web apps, while React is used to build UI components in any app with frequently variable data.

React JS:

React (also known as React.js or ReactJS) is a [free and open-source](https://en.wikipedia.org/wiki/Free_and_open-source_software) [front-end](https://en.wikipedia.org/wiki/Front_end_and_back_end) [JavaScript library](https://en.wikipedia.org/wiki/JavaScript_library) for building [user interfaces](https://en.wikipedia.org/wiki/User_interfaces) based on UI components. It is maintained by [Meta](https://en.wikipedia.org/wiki/Meta_Platforms) (formerly Facebook) and a community of individual developers and companies. React can be used as a base in the development of [single-page](https://en.wikipedia.org/wiki/Single-page_application), mobile, or server-rendered applications with frameworks like [Next.js](https://en.wikipedia.org/wiki/Next.js). However, React is only concerned with state management and rendering that state to the [DOM](https://en.wikipedia.org/wiki/Document_Object_Model), so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality

Angular:

Angular is a development platform built on TypeScript. As a platform it includes:

* A component-based framework for building scalable web applications
* A collection of well-integrated libraries that cover a wide variety of features, including routing, forms management, client-server communication, and more
* A suite of developer tools to help you develop, build, test, and update your code

1. What is Hibernate and ORM?

Hibernate is an object-relational mapping solution for Java environments. Object-relational mapping or ORM is the programming technique to map application domain model objects to the relational database tables. Hibernate is a Java-based ORM tool that provides a framework for mapping application domain objects to the relational database tables and vice versa.

Object-relational mapping (ORM) is a programming technique in which a metadata descriptor is used to connect object code to a relational database. Object code is written in object-oriented programming (OOP) languages such as Java or C#. ORM converts data between type systems that are unable to coexist within relational databases and OOP languages.

1. What are the keywords used for class to class, class to interface and interface to interface?

Class to Class - extends keyword

Class to Interface – implements keyword

Interface to Interface – extends keyword

1. What is the default access for variables and functions defined in Java 7?

Default: When no access modifier is specified for a class, method, or data member – It is said to be having the default access modifier by default.

1. How many types of file formats are present in java?

* JPEG (Joint Photographic Experts Group)
* PNG (Portable Network Graphics)
* GIF (Graphics Interchange Format)
* PDF (Portable Document Format)
* SVG (Scalable Vector Graphics)
* MP4 (Moving Picture Experts Group)

1. Examples of DBMS and RDBMS?

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| DBMS | RDBMS |
| Low software and hardware necessities. | Higher software and hardware necessities. |
| Examples: XML, Window Registry, etc. | Examples: MySQL, PostgreSQL, SQL Server, Oracle, Microsoft Access etc. |

1. Can Python connect to DB2?

Python can connect to db but cannot connect to db2, but there are other drivers available which can make database connection possible.

15.Difference between Spring Frame work and Spring Boot?

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| **Spring** | **Spring Boot** |
| **Spring Framework** is a widely used Java EE framework for building applications. | **Spring Boot Framework** is widely used to develop **REST APIs**. |
| It aims to simplify Java EE development that makes developers more productive. | It aims to shorten the code length and provide the easiest way to develop  **Web Applications**. |
| The primary feature of the Spring Framework is **dependency injection**. | The primary feature of Spring Boot is **Autoconfiguration**. It automatically  configures the classes based on the requirement. |
| It helps to make things simpler by allowing us to develop **loosely coupled** applications. | It helps to create a **stand-alone** application with less configuration. |
| The developer writes a lot of code (**boilerplate code**) to do the minimal task. | It **reduces** boilerplate code. |
| To test the Spring project, we need to set up the sever explicitly. | Spring Boot offers **embedded server** such as **Jetty** and **Tomcat**, etc. |
| It does not provide support for an in-memory database. | It offers several plugins for working with an embedded  and **in-memory** database such as **H2**. |

16. Difference between Linux OS and Windows OS?

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| **Linux** | **Windows** |
| Linux is Open Source and is free to use. | Windows is not open source and not free to use. |
| Linux file system is case sensitive | Windows file system is not case sensitive. |
| Linux uses monolithic kernel | Windows uses micro kernel. |
| Linux is more efficient in operations compared to Windows. | Windows is less efficient. |
| Linux uses forward slash as path separator. | Windows uses backward slash as path separator. |
| Linux is highly secured compared to Windows. | Windows is less secured. |