Technical Learning Content

The below document has details on technical learnings shared earlier, aligning to current foundational skill scope.

SQL			
Topics	**Sub-Topics**	**URLs**	**Platform**
Database Design	What is Database Design?, Why is Database Design important?, Life Cycle, Physical Model, Logical Model, Database Design Process,	https://www.javatpoint.com/database-design	javatpoint
Normalization	Normal Forms in DBMS, 1NF, 2NF, 3NF, BCNF	https://www.geeksforgeeks.org/normal-forms-in-dbms/	geeksforgeeks
NoSQL Basics	Introduction to NoSQL	https://www.geeksforgeeks.org/introduction-to-nosql/	geeksforgeeks
SQL Functions	Aggregate and Scalar Functions	https://www.geeksforgeeks.org/sql-functions-aggregate-scalar-functions/	geeksforgeeks
	Date Functions	https://www.geeksforgeeks.org/sql-date-functions/	geeksforgeeks
	String Functions	https://www.geeksforgeeks.org/sql-string-functions/	geeksforgeeks
	Ranking Functions	https://www.geeksforgeeks.org/mysql-ranking-functions/	geeksforgeeks
GROUP BY	GROUP BY clause	https://www.geeksforgeeks.org/sql-group-by/	geeksforgeeks
Joins	Inner, Left, Right and Full Joins	https://www.geeksforgeeks.org/sql-join-set-1-inner-left-right-and-full-joins/	geeksforgeeks
	Cartesian Join & Self Join	https://www.geeksforgeeks.org/sql-join-cartesian-join-self-join/	geeksforgeeks
Subquery	Introduction to Subquery	https://www.geeksforgeeks.org/sql-subquery/	geeksforgeeks
	Sub queries in From Clause	https://www.geeksforgeeks.org/sql-sub-queries-clause/	geeksforgeeks

| | Correlated Subqueries | https://www.geeksforgeeks.org/sql-correlated-subqueries/ | geeksforgeeks |

Core Java

Topics	Sub-Topics	URLs	Platform
Object Oriented Programming Concepts	Class & Objects, static variables (class variables)	https://www.geeksforgeeks.org/classes-objects-java/	geeksforgeeks
		https://www.geeksforgeeks.org/variables-in-java/	geeksforgeeks
		https://www.tutorialspoint.com/What-is-the-difference-between-class-variables-and-instance-variables-in-Java	tutorialspoint
	Encapsulation	https://www.w3schools.com/java/java_constructors.asp	w3schools
		https://www.w3schools.com/java/java_encapsulation.asp	w3schools
		https://www.journaldev.com/1325/composition-in-java-example	journaldev
	Inheritance	https://www.w3schools.com/java/java_inheritance.asp	w3schools
	Polymorphism	https://www.w3schools.com/java/java_polymorphism.asp	w3schools
	Abstract class	https://www.w3schools.com/java/java_abstract.asp	w3schools
	Interface	https://www.geeksforgeeks.org/interfaces-in-java/	geeksforgeeks
	Object class	https://www.geeksforgeeks.org/overriding-equals-method-in-java/	geeksforgeeks
		https://www.geeksforgeeks.org/object-class-in-java/	geeksforgeeks
	packages	https://www.tutorialspoint.com/Advantages-of-using-packages-in-Java	tutorialspoint
		https://beginnersbook.com/2013/03/packages-in-java/	beginnersbook
	Access Modifiers and final keyword	https://www.javatpoint.com/access-modifiers	javatpoint
		https://www.javatpoint.com/final-keyword	javatpoint
Exception Handling	Basics,Types of exceptions	https://www.geeksforgeeks.org/exceptions-in-java/ https://www.geeksforgeeks.org/types-of-exception-in-java-with-examples/ https://www.geeksforgeeks.org/checked-vs-unchecked-exceptions-in-java/ https://www.geeksforgeeks.org/throw-throws-java/	geeksforgeeks
	User Defined Exceptions	https://www.tutorialspoint.com/What-are-custom-exceptions-in-Java	tutorialspoint
		https://www.codejava.net/java-core/exception/how-to-create-custom-exceptions-in-java	codejava.net
Wrapper classes	Convert primitive data type to	https://www.geeksforgeeks.org/wrapper-classes-java/	geeksforgeeks

	objects. Integer, Float, Double, Long, Character, Boolean		
Collections Framework	Collection basics	https://www.javatpoint.com/collections-in-java	javatpoint
		https://beginnersbook.com/2015/01/difference-between-list-set-and-map-in-java/	beginnersbook
	List	https://www.geeksforgeeks.org/initialize-an-arraylist-in-java/	geeksforgeeks
		https://howtodoinjava.com/java/collections/arraylist/iterate-through-objects/	howtodoinjava
		https://beginnersbook.com/2013/12/how-to-sort-arraylist-in-java/	beginnersbook
	Map	https://www.geeksforgeeks.org/java-util-hashmap-in-java-with-examples/	geeksforgeeks
	Set	https://www.geeksforgeeks.org/set-in-java/	geeksforgeeks
File Handling	InputStream, OutputStream, FileReader, FileWriter	https://www.geeksforgeeks.org/file-handling-java-using-filewriter-filereader/	geeksforgeeks
		https://www.tutorialspoint.com/java/java_files_io.htm	tutorialspoint
Advanced Concepts	String Methods	https://www.java-programs.thiyagaraaj.com/parseexception-java-example-program.html	java-programs
		https://www.javatpoint.com/difference-between-stringbuffer-and-stringbuilder	javatpoint
	Explain Annotations	https://www.javatpoint.com/java-annotation	javatpoint
	Memory management works in Java	https://www.javatpoint.com/memory-management-in-java	javatpoint
	Multi-Threading	https://www.javatpoint.com/multithreading-in-java	javatpoint
Java 8 Concepts	Lambda Expressions	https://docs.oracle.com/javase/tutorial/java/javaOO/lambdaexpressions.html	oracle
		https://docs.oracle.com/javase/8/docs/api/java/util/function/package-summary.html	oracle
	Stream API, Filters, Collectors, forEach and Method Reference	https://docs.oracle.com/javase/8/docs/api/java/util/stream/package-summary.html	oracle
		https://www.geeksforgeeks.org/stream-in-java	geeksforgeeks
		https://www.tutorialspoint.com/java8/java8_streams	tutorialspoint
	DateTime API	https://www.oracle.com/technetwork/articles/java/jf14-date-time-2125367.html	oracle
		https://docs.oracle.com/javase/8/docs/api/java/time/package-summary.html	oracle
		https://docs.oracle.com/javase/8/docs/api/java/time/format/package-summary.html	oracle

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Additional Learning

Code Analysis

Topics	Sub-Topics	URLs	Platform
Code Analysis - SonalQube / Sonarlint	Static Code Analysis Introduction	https://www.youtube.com/watch?v=3VmuKDb2C8w	youtube
	Code Analysis - SonalQube	https://docs.sonarqube.org/latest/	sonarqube
	Code Analysis - SonalQube	https://www.sonarsource.com/open-source-editions/sonarqube-community-edition/	sonarsource
	Sonarlint - Eclipse	https://www.sonarsource.com/products/sonarlint/features/eclipse/	sonarsource
	Sonarlint - Visual Studio	https://marketplace.visualstudio.com/items?itemName=SonarSource.SonarLintforVisualStudio2022	visualstudio

GitHub Copilot

Topics	Sub-Topics	URLs	Platform
GitHub Copilot	Quick Introduction GitHub Copilot	https://www.youtube.com/watch?v=hPVatUSvZq0	youtube
	GitHub Copilot in detail	https://www.youtube.com/watch?v=CZNvKfw2fH4	youtube
Note – For additional learning, You can refer GitHub official website. There is a 30-day free trial period.			

AI Chat GPT

Topics	Sub-Topics	URLs	Platform
AI - Generative AI and Chat GPT	Artificial Intelligence Tutorial | AI Tutorial for Beginners	https://www.youtube.com/watch?v=FWOZmmIUqHg&list=PLEiEAq2VkUULyr_ftxpHB6DumOq1Zz2hq&index=8	youtube
	How ChatGPT Works Technically For Beginners	https://www.youtube.com/watch?v=uCIa6V4uF84	youtube

	Introduction to Generative AI	https://www.coursera.org/learn/introduction-to-generative-ai/home/info	coursera
	Prompt Engineering for ChatGPT	https://www.coursera.org/learn/prompt-engineering	coursera

Use these online editors to practice the questions in the learning sites listed or your choice of learning avenues		
Skill/Course	**URLs**	**Remarks**
SQL	https://www.mycompiler.io/new/sql	Free
	https://www.jdoodle.com/execute-sql-online/	Free
	https://www.tutorialspoint.com/execute_sql_online.php	Free
	https://www.w3schools.com/sql/trysql.asp?filename=trysql_asc	Free
	https://onecompiler.com/mysql	Free
Core Java	https://www.tutorialspoint.com/compile_java_online.php	
	https://www.onlinegdb.com/online_java_compiler	
	https://www.jdoodle.com/online-java-compiler-ide/	
	https://www.hackerrank.com/dashboard	
	https://www.techgig.com/	Free

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