

# Java + DSA + Machine Learning (GFG) 180-Day Study Plan

- [ ] 2025-07-04 | Java Day 1 | Java Basics: Syntax, Variables, Data Types, Operators
- [ ] 2025-07-05 | Java Day 2 | Control Structures: if-else, switch, loops
- [ ] 2025-07-06 | Java Day 3 | Arrays and Strings
- [ ] 2025-07-07 | Java Day 4 | Methods and Recursion
- [ ] 2025-07-08 | Java Day 5 | OOP: Classes and Objects
- [ ] 2025-07-09 | Java Day 6 | Inheritance, Polymorphism, Abstraction, Interfaces
- [ ] 2025-07-10 | Java Day 7 | Exception Handling, Collections Overview
- [ ] 2025-07-11 | Day 8 | DSA: Intro to DSA & Complexity | ML: Intro to ML & AI
- [ ] 2025-07-12 | Day 9 | DSA: Arrays - Basics | ML: Types of ML: Supervised vs Unsupervised
- [ ] 2025-07-13 | Day 10 | DSA: Arrays - Operations | ML: ML Pipeline Overview
- [ ] 2025-07-14 | Day 11 | DSA: Strings - Basics | ML: Data Preprocessing
- [ ] 2025-07-15 | Day 12 | DSA: Strings - Algorithms | ML: Feature Scaling
- [ ] 2025-07-16 | Day 13 | DSA: Recursion - Basics | ML: Handling Missing Data
- [ ] 2025-07-17 | Day 14 | DSA: Recursion - Advanced | ML: Encoding Categorical Data
- [ ] 2025-07-18 | Day 15 | DSA: Searching - Linear/Binary | ML: Train/Test Split
- [ ] 2025-07-19 | Day 16 | DSA: Sorting - Bubble/Selection/Insertion | ML: Linear Regression
- [ ] 2025-07-20 | Day 17 | DSA: Sorting - Merge/Quick | ML: Polynomial Regression
- [ ] 2025-07-21 | Day 18 | DSA: Matrix - Basics | ML: Ridge & Lasso Regression
- [ ] 2025-07-22 | Day 19 | DSA: Bit Manipulation - Basics | ML: Logistic Regression
- [ ] 2025-07-23 | Day 20 | DSA: Bit Manipulation - Problems | ML: K-Nearest Neighbors (KNN)
- [ ] 2025-07-24 | Day 21 | DSA: Mathematics - GCD/LCM | ML: Support Vector Machines (SVM)
- [ ] 2025-07-25 | Day 22 | DSA: Mathematics - Sieve & Prime | ML: Naive Bayes Classifier
- [ ] 2025-07-26 | Day 23 | DSA: Sliding Window | ML: Decision Trees
- [ ] 2025-07-27 | Day 24 | DSA: Two Pointer Technique | ML: Random Forest
- [ ] 2025-07-28 | Day 25 | DSA: Hashing - Basics | ML: Gradient Boosting
- [ ] 2025-07-29 | Day 26 | DSA: Hashing - Problems | ML: XGBoost
- [ ] 2025-07-30 | Day 27 | DSA: Stack - Intro | ML: Bagging & Boosting
- [ ] 2025-07-31 | Day 28 | DSA: Stack - Problems | ML: Evaluation Metrics - Accuracy, Precision, Recall
- [ ] 2025-08-01 | Day 29 | DSA: Queue - Intro | ML: Confusion Matrix
- [ ] 2025-08-02 | Day 30 | DSA: Queue - Problems | ML: ROC & AUC
- [ ] 2025-08-03 | Day 31 | DSA: Linked List - Singly | ML: K-Fold Cross Validation
- [ ] 2025-08-04 | Day 32 | DSA: Linked List - Doubly | ML: Bias-Variance Tradeoff

[ ] 2025-08-05 | Day 33 | DSA: LL - Operations | ML: Overfitting & Underfitting

[ ] 2025-08-06 | Day 34 | DSA: Stack using LL/Array | ML: Hyperparameter Tuning

[ ] 2025-08-07 | Day 35 | DSA: Queue using LL/Array | ML: Grid Search

[ ] 2025-08-08 | Day 36 | DSA: Circular Queue | ML: Pipeline in Sklearn

[ ] 2025-08-09 | Day 37 | DSA: Binary Tree - Intro | ML: Unsupervised Learning - Intro

[ ] 2025-08-10 | Day 38 | DSA: Binary Tree - Traversals | ML: K-Means Clustering

[ ] 2025-08-11 | Day 39 | DSA: Binary Tree - Height/Diameter | ML: Hierarchical Clustering

[ ] 2025-08-12 | Day 40 | DSA: Binary Search Tree - Intro | ML: DBSCAN

[ ] 2025-08-13 | Day 41 | DSA: BST - Operations | ML: PCA - Dimensionality Reduction

[ ] 2025-08-14 | Day 42 | DSA: Heap - Min/Max | ML: T-SNE

[ ] 2025-08-15 | Day 43 | DSA: Heap - Heapify | ML: Association Rules - Apriori

[ ] 2025-08-16 | Day 44 | DSA: Priority Queue | ML: Time Series Forecasting

[ ] 2025-08-17 | Day 45 | DSA: Hash Map - Intro | ML: Moving Average Models

## Java + DSA + ML Study Plan (Continued)

- [ ] 2025-08-18 | Day 46 | DSA: Hash Map - Problems | ML: ARIMA
- [ ] 2025-08-19 | Day 47 | DSA: Graph - BFS | ML: NLP - Intro
- [ ] 2025-08-20 | Day 48 | DSA: Graph - DFS | ML: Text Preprocessing
- [ ] 2025-08-21 | Day 49 | DSA: Graph - Cycle Detection | ML: Bag of Words
- [ ] 2025-08-22 | Day 50 | DSA: Topological Sort | ML: TF-IDF
- [ ] 2025-08-23 | Day 51 | DSA: Dijkstra's Algo | ML: Word Embeddings
- [ ] 2025-08-24 | Day 52 | DSA: Bellman Ford | ML: Intro to Deep Learning
- [ ] 2025-08-25 | Day 53 | DSA: Floyd Warshall | ML: ANN Basics
- [ ] 2025-08-26 | Day 54 | DSA: Disjoint Set - Union Find | ML: Forward & Backward Propagation
- [ ] 2025-08-27 | Day 55 | DSA: Graph - MST Kruskal | ML: Activation Functions
- [ ] 2025-08-28 | Day 56 | DSA: Graph - MST Prim | ML: CNN Basics
- [ ] 2025-08-29 | Day 57 | DSA: Advanced Graph Problems | ML: CNN in Practice
- [ ] 2025-08-30 | Day 58 | DSA: Greedy Algorithms - Basics | ML: RNN & LSTM
- [ ] 2025-08-31 | Day 59 | DSA: Greedy - Activities | ML: Sentiment Analysis
- [ ] 2025-09-01 | Day 60 | DSA: Greedy - Huffman | ML: Text Classification
- [ ] 2025-09-02 | Day 61 | DSA: Backtracking - Basics | ML: Spam Detection
- [ ] 2025-09-03 | Day 62 | DSA: N-Queens Problem | ML: Computer Vision - Basics
- [ ] 2025-09-04 | Day 63 | DSA: Rat in a Maze | ML: Image Classification
- [ ] 2025-09-05 | Day 64 | DSA: Sudoku Solver | ML: Image Preprocessing
- [ ] 2025-09-06 | Day 65 | DSA: Divide and Conquer - MergeSort | ML: Transfer Learning
- [ ] 2025-09-07 | Day 66 | DSA: QuickSort - Revisit | ML: Pretrained Models
- [ ] 2025-09-08 | Day 67 | DSA: Binary Search - Advanced | ML: Model Deployment - Flask
- [ ] 2025-09-09 | Day 68 | DSA: Bitmasking | ML: Building REST APIs
- [ ] 2025-09-10 | Day 69 | DSA: Tries - Intro | ML: Streamlit for ML
- [ ] 2025-09-11 | Day 70 | DSA: Tries - Problems | ML: Model Interpretability - SHAP
- [ ] 2025-09-12 | Day 71 | DSA: Segment Tree - Intro | ML: ML Projects - Regression
- [ ] 2025-09-13 | Day 72 | DSA: Segment Tree - Range Queries | ML: ML Projects - Classification
- [ ] 2025-09-14 | Day 73 | DSA: Fenwick Tree | ML: ML Projects - Clustering
- [ ] 2025-09-15 | Day 74 | DSA: Binary Lifting | ML: ML Projects - NLP
- [ ] 2025-09-16 | Day 75 | DSA: LCA in Trees | ML: ML Projects - CV
- [ ] 2025-09-17 | Day 76 | DSA: Dynamic Programming - Basics | ML: ML Capstone Review
- [ ] 2025-09-18 | Day 77 | DSA: DP - Knapsack | ML: Intro to ML & AI

- [ ] 2025-09-19 | Day 78 | DSA: DP - LCS | ML: Types of ML: Supervised vs Unsupervised
- [ ] 2025-09-20 | Day 79 | DSA: DP - LIS | ML: ML Pipeline Overview
- [ ] 2025-09-21 | Day 80 | DSA: DP - Matrix Chain | ML: Data Preprocessing
- [ ] 2025-09-22 | Day 81 | DSA: DP - Partition Problems | ML: Feature Scaling
- [ ] 2025-09-23 | Day 82 | DSA: DP - Advanced Patterns | ML: Handling Missing Data
- [ ] 2025-09-24 | Day 83 | DSA: DP - Digit DP | ML: Encoding Categorical Data
- [ ] 2025-09-25 | Day 84 | DSA: DP - Bitmask DP | ML: Train/Test Split
- [ ] 2025-09-26 | Day 85 | DSA: Final DP Practice | ML: Linear Regression
- [ ] 2025-09-27 | Day 86 | DSA: DSA Practice - Arrays & Strings | ML: Polynomial Regression
- [ ] 2025-09-28 | Day 87 | DSA: DSA Practice - Recursion | ML: Ridge & Lasso Regression
- [ ] 2025-09-29 | Day 88 | DSA: DSA Practice - Searching & Sorting | ML: Logistic Regression
- [ ] 2025-09-30 | Day 89 | DSA: DSA Practice - Linked List | ML: K-Nearest Neighbors (KNN)
- [ ] 2025-10-01 | Day 90 | DSA: DSA Practice - Stack/Queue | ML: Support Vector Machines (SVM)

## Java + DSA + ML Study Plan (Continued)

- [ ] 2025-10-02 | Day 91 | DSA: DSA Practice - Trees | ML: Naive Bayes Classifier
- [ ] 2025-10-03 | Day 92 | DSA: DSA Practice - Graphs | ML: Decision Trees
- [ ] 2025-10-04 | Day 93 | DSA: DSA Practice - DP | ML: Random Forest
- [ ] 2025-10-05 | Day 94 | DSA: DSA Practice - Greedy | ML: Gradient Boosting
- [ ] 2025-10-06 | Day 95 | DSA: DSA Practice - Backtracking | ML: XGBoost
- [ ] 2025-10-07 | Day 96 | DSA: DSA Practice - Tries | ML: Bagging & Boosting
- [ ] 2025-10-08 | Day 97 | DSA: Mock Test 1 | ML: Evaluation Metrics - Accuracy, Precision, Recall
- [ ] 2025-10-09 | Day 98 | DSA: Mock Test 2 | ML: Confusion Matrix
- [ ] 2025-10-10 | Day 99 | DSA: Mock Test 3 | ML: ROC & AUC
- [ ] 2025-10-11 | Day 100 | DSA: Mock Test 4 | ML: K-Fold Cross Validation
- [ ] 2025-10-12 | Day 101 | DSA: Topic-Wise Problems - Arrays | ML: Bias-Variance Tradeoff
- [ ] 2025-10-13 | Day 102 | DSA: Topic-Wise Problems - Strings | ML: Overfitting & Underfitting
- [ ] 2025-10-14 | Day 103 | DSA: Topic-Wise Problems - DP | ML: Hyperparameter Tuning
- [ ] 2025-10-15 | Day 104 | DSA: Topic-Wise Problems - Graphs | ML: Grid Search
- [ ] 2025-10-16 | Day 105 | DSA: Topic-Wise Problems - Trees | ML: Pipeline in Sklearn
- [ ] 2025-10-17 | Day 106 | DSA: Topic-Wise Problems - Stack | ML: Unsupervised Learning - Intro
- [ ] 2025-10-18 | Day 107 | DSA: Topic-Wise Problems - Queue | ML: K-Means Clustering
- [ ] 2025-10-19 | Day 108 | DSA: Topic-Wise Problems - Math | ML: Hierarchical Clustering
- [ ] 2025-10-20 | Day 109 | DSA: Topic-Wise Problems - Binary Search | ML: DBSCAN
- [ ] 2025-10-21 | Day 110 | DSA: Topic-Wise Problems - Sliding Window | ML: PCA - Dimensionality Reduction
- [ ] 2025-10-22 | Day 111 | DSA: Final Revision | ML: T-SNE
- [ ] 2025-10-23 | Day 112 | DSA: Contest Practice | ML: Association Rules - Apriori
- [ ] 2025-10-24 | Day 113 | DSA: Interview Prep 1 | ML: Time Series Forecasting
- [ ] 2025-10-25 | Day 114 | DSA: Interview Prep 2 | ML: Moving Average Models
- [ ] 2025-10-26 | Day 115 | DSA: System Design Basics | ML: ARIMA
- [ ] 2025-10-27 | Day 116 | DSA: Final Contest & Feedback | ML: NLP - Intro
- [ ] 2025-10-28 | Day 117 | DSA: DSA Revision/Practice | ML: Text Preprocessing
- [ ] 2025-10-29 | Day 118 | DSA: DSA Revision/Practice | ML: Bag of Words
- [ ] 2025-10-30 | Day 119 | DSA: DSA Revision/Practice | ML: TF-IDF
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[ ] 2025-11-10 | Day 130 | DSA: DSA Revision/Practice | ML: Spam Detection

[ ] 2025-11-11 | Day 131 | DSA: DSA Revision/Practice | ML: Computer Vision - Basics

[ ] 2025-11-12 | Day 132 | DSA: DSA Revision/Practice | ML: Image Classification

[ ] 2025-11-13 | Day 133 | DSA: DSA Revision/Practice | ML: Image Preprocessing

[ ] 2025-11-14 | Day 134 | DSA: DSA Revision/Practice | ML: Transfer Learning

[ ] 2025-11-15 | Day 135 | DSA: DSA Revision/Practice | ML: Pretrained Models

## Java + DSA + ML Study Plan (Continued)

- [ ] 2025-11-16 | Day 136 | DSA: DSA Revision/Practice | ML: Model Deployment - Flask
- [ ] 2025-11-17 | Day 137 | DSA: DSA Revision/Practice | ML: Building REST APIs
- [ ] 2025-11-18 | Day 138 | DSA: DSA Revision/Practice | ML: Streamlit for ML
- [ ] 2025-11-19 | Day 139 | DSA: DSA Revision/Practice | ML: Model Interpretability - SHAP
- [ ] 2025-11-20 | Day 140 | DSA: DSA Revision/Practice | ML: ML Projects - Regression
- [ ] 2025-11-21 | Day 141 | DSA: DSA Revision/Practice | ML: ML Projects - Classification
- [ ] 2025-11-22 | Day 142 | DSA: DSA Revision/Practice | ML: ML Projects - Clustering
- [ ] 2025-11-23 | Day 143 | DSA: DSA Revision/Practice | ML: ML Projects - NLP
- [ ] 2025-11-24 | Day 144 | DSA: DSA Revision/Practice | ML: ML Projects - CV
- [ ] 2025-11-25 | Day 145 | DSA: DSA Revision/Practice | ML: ML Capstone Review
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- [ ] 2025-11-29 | Day 149 | DSA: DSA Revision/Practice | ML: Data Preprocessing
- [ ] 2025-11-30 | Day 150 | DSA: DSA Revision/Practice | ML: Feature Scaling
- [ ] 2025-12-01 | Day 151 | DSA: DSA Revision/Practice | ML: Handling Missing Data
- [ ] 2025-12-02 | Day 152 | DSA: DSA Revision/Practice | ML: Encoding Categorical Data
- [ ] 2025-12-03 | Day 153 | DSA: DSA Revision/Practice | ML: Train/Test Split
- [ ] 2025-12-04 | Day 154 | DSA: DSA Revision/Practice | ML: Linear Regression
- [ ] 2025-12-05 | Day 155 | DSA: DSA Revision/Practice | ML: Polynomial Regression
- [ ] 2025-12-06 | Day 156 | DSA: DSA Revision/Practice | ML: Ridge & Lasso Regression
- [ ] 2025-12-07 | Day 157 | DSA: DSA Revision/Practice | ML: Logistic Regression
- [ ] 2025-12-08 | Day 158 | DSA: DSA Revision/Practice | ML: K-Nearest Neighbors (KNN)
- [ ] 2025-12-09 | Day 159 | DSA: DSA Revision/Practice | ML: Support Vector Machines (SVM)
- [ ] 2025-12-10 | Day 160 | DSA: DSA Revision/Practice | ML: Naive Bayes Classifier
- [ ] 2025-12-11 | Day 161 | DSA: DSA Revision/Practice | ML: Decision Trees
- [ ] 2025-12-12 | Day 162 | DSA: DSA Revision/Practice | ML: Random Forest
- [ ] 2025-12-13 | Day 163 | DSA: DSA Revision/Practice | ML: Gradient Boosting
- [ ] 2025-12-14 | Day 164 | DSA: DSA Revision/Practice | ML: XGBoost
- [ ] 2025-12-15 | Day 165 | DSA: DSA Revision/Practice | ML: Bagging & Boosting
- [ ] 2025-12-16 | Day 166 | DSA: DSA Revision/Practice | ML: Evaluation Metrics - Accuracy, Precision, Recall
- [ ] 2025-12-17 | Day 167 | DSA: DSA Revision/Practice | ML: Confusion Matrix

[ ] 2025-12-18 | Day 168 | DSA: DSA Revision/Practice | ML: ROC & AUC

[ ] 2025-12-19 | Day 169 | DSA: DSA Revision/Practice | ML: K-Fold Cross Validation

[ ] 2025-12-20 | Day 170 | DSA: DSA Revision/Practice | ML: Bias-Variance Tradeoff

[ ] 2025-12-21 | Day 171 | DSA: DSA Revision/Practice | ML: Overfitting & Underfitting

[ ] 2025-12-22 | Day 172 | DSA: DSA Revision/Practice | ML: Hyperparameter Tuning

[ ] 2025-12-23 | Day 173 | DSA: DSA Revision/Practice | ML: Grid Search

[ ] 2025-12-24 | Day 174 | DSA: DSA Revision/Practice | ML: Pipeline in Sklearn

[ ] 2025-12-25 | Day 175 | DSA: DSA Revision/Practice | ML: Unsupervised Learning - Intro

[ ] 2025-12-26 | Day 176 | DSA: DSA Revision/Practice | ML: K-Means Clustering

[ ] 2025-12-27 | Day 177 | DSA: DSA Revision/Practice | ML: Hierarchical Clustering

[ ] 2025-12-28 | Day 178 | DSA: DSA Revision/Practice | ML: DBSCAN

[ ] 2025-12-29 | Day 179 | DSA: DSA Revision/Practice | ML: PCA - Dimensionality Reduction

[ ] 2025-12-30 | Day 180 | DSA: DSA Revision/Practice | ML: T-SNE