

# Java Projects in 2021

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Great Learning



# Session Agenda



Session coverage:

- Beginner level projects
- Intermediate level projects
- Advanced level projects

# Beginner Level Projects

# 1. ATM Machine

# ATM Machine



## Problem Statement

- Design an Automated Teller Machine.
- Storing username and password.
- Account creation, where user can store money.
- User can withdraw and deposit money, view earlier transactions, calculate interest etc.

# ATM Machine



## Skills required

- Core Java Programming
- Eclipse IDE
- Understanding of conditional statements and looping constructs
- Basic understanding of OOPs Concepts

## 2. Music Player App

# Music Player App



## Problem Statement

- A simple classic mp3 player which has features like playing selected mp3 music files, pausing the music, resuming the music, and stopping the music.
- It will be having options for playing next song, previous song, replaying the current song and showing list of all songs as well.



# Music Player App



## Skills required

- Core Java Programming
- OOPs concepts
- Understanding of conditional statements and looping constructs
- Switch case constructs and Collection Framework

# 3. Digital Clock

# Digital Clock



## Problem Statement

- As the name suggests, creation of a digital clock.
- This application shows the system's current time.

## Skills required

- Java Swing and AWT
- User defined functions and basic conditional statements

# 4. Digital Calculator

# Digital Calculator



## Problem Statement

- As the name suggests, creation of a Calculator.
- This application calculates any expression no matter how much long.

## Skills required

- Java Swing and AWT
- Switch case constructs and Collection API

# 5. Text Editor

# Text Editor



## Problem Statement

- You can save, open, print and open a new file, which you can edit.
- You can cut, copy and paste whatever you select.

## Skills required

- Java Swing, Applet, JTextArea, JMenuBar etc.
- Event listeners and IO File Handling

# Intermediate Level Projects



# 1. Sign Up Form

# Sign Up Form



## Problem Statement

- Creating a Sign up form with necessary requirements like text boxes, buttons etc.
- You can cut, copy and paste whatever you select.

## Skills required

- Java Servlets and Java Server Pages.
- Apache Tomcat and Knowledge of HTML & CSS.

## 2. Library Management System

# Library Management System



## Problem Statement

- It is used to keep a record of books present in a library.
- System will consist of information regarding Books.
- Which student has taken which book, on which date and when he has to return the same.
- All the operations that are required in an actual system can be performed such as CRUD operation, advanced search, book issuing etc.

# Library Management System



## Skills required

- Core Java Concepts
- Serialization
- Java Collections API
- Vast knowledge of OOPs concepts

# 3. Electricity Billing System

# Electricity Billing System



## Problem Statement

- A web-based project that provides an online platform for users to pay electricity bills.
- System automates billing system and calculates the amount of money to be paid according to the units consumed in a specific duration of time.
- The customer will just feed the meter's readings into the system and software will generate the bill.

# Electricity Billing System



## Skills required

- Core Java Concepts
- Swing
- MySQL Database
- TOMCAT server knowledge



# 4. Breakout Ball Game

# Breakout Ball Game



## Problem Statement

- Developing a Java GUI application to implement the Breakout Ball Game.
- A layer of bricks lines the top third of the screen and the goal is to destroy them all.
- A ball moves straight around the screen, bouncing off the top and two sides of the screen.
- When a brick is hit, the ball bounces back and the brick is destroyed.
- The player loses a turn when the ball touches the bottom of the screen.

# Breakout Ball Game



## Skills required

- Java Swing
- Java AWT
- JPanel
- JFrame

# 5. Quiz Application

# Quiz Application



## Problem Statement

- A MCQ based Quiz Application that contains a set of curated questions and its answers.
- It checks for the correctness of the answer given by the user.
- It navigates through the questions and displays the result at the end.
- Student (examinee) data will be stored, manipulated and the results can be fetched.

# Quiz Application



## Skills required

- Core Java
- Java Swing and AWT
- Java Applet
- Database – MySQL or Firebase for authentication and data handling

# Advanced Level Projects

# 1. Airline Reservation System



# Airline Reservation System



## Problem Statement

- To ease and automate the registration process of airline system.
- System provides information like passenger's information, criminal's, list of all passengers etc.
- Software consists of four key modules i.e. user registration, login, reservation and cancellation.
- The project includes online transaction, fares, inventory & e-ticket operations.

# Airline Reservation System



## Skills required

- Core Java
- Java Swing and AWT
- Java Applet
- Database – MySQL

## 2. Chatting Application

# Chatting Application



## Problem Statement

- Client and Server communication through chats
- Instead of basic request-based communication, this application will need to communicate through sockets.
- The server and clients can run on different computers in the same network.
- There can be multiple clients connect to a server and they can chat to each other.

# Chatting Application



## Skills required

- Core Java
- Java network based libraries
- Java Socket
- File handling and Exception Handling

# 3. Customer Relationship Manager

# Customer Relationship Manager



## Problem Statement

- Customer Relationship Manager will keep track of all the customers.
- Adding new customers, editing their information and deleting them when needed.
- Fetching already recorded customer details whenever required.

# Customer Relationship Manager



## Skills required

- Spring Framework
- Hibernate
- HTML & CSS
- JDBC, CRUD, MVC and MySQL



# 4. Supply Chain Management System

# Supply Chain Management System



## Problem Statement

- It refers to the management of businesses interconnected over a network.
- Handling, storage, and movement of raw materials, inventory, and transporting finished goods from the source to its final destination.
- Using this application, a company can directly communicate with its clients, obtain the product requirements, manufacture the product to fit those requirements, and finally ship it off to the client.

# Supply Chain Management System



## Skills required

- Core Java and JSP
- JDBC
- HTML and CSS
- MS Access

# 5. Sudoku Game

# Sudoku Game



## Problem Statement

- Building a Sudoku game using JavaFX.
- Generating a new game from a solution, Keeping track of user input, Checking user input against generated solution, Keeping track of selected number are some of the functions.
- Ability to check for errors and giving hints.

# Sudoku Game



## Skills required

- Core Java
- JavaFX and Event Listeners
- MVC
- Collection API

# List of other projects



- Currency Converter
- Number Guessing Game
- Snake Game
- Payroll System
- Employee Management System
- University Management System
- Hotel Management System
- Smart City Project
- Food ordering System

# Thank you