ASSIGNMENT NO 1

Student Name	**Zarqa**
Student ID	**B2433131**
Section	**B**
Task	**Assignment 1 or Lab 01 or Lab 02 or Quiz 01 or Class Activity 01**
Due Date	**29-10-2024**
Submitted On	**29-10-2024**
Submitted To	**Sir Abdul Haseeb**

QUESTION NO: 01

Q1) Imagine you are designing a basic software program to manage a zoo. In this task, you'll create classes and objects that represent different parts of a zoo, such as animals, staff members, and buildings. Each class should have attributes and methods relevant to its purpose.

EXPLANATION:

1.Animal Class:

- Represents animals in the zoo.
- Has attributes for species (type of animal) and age.
- showDetails() method displays the animal's species and age.

2.Staff Class:

- Represents zoo staff members.
- Has attributes for name, role, and shiftType.
- showDetails() method displays the staff member's details.

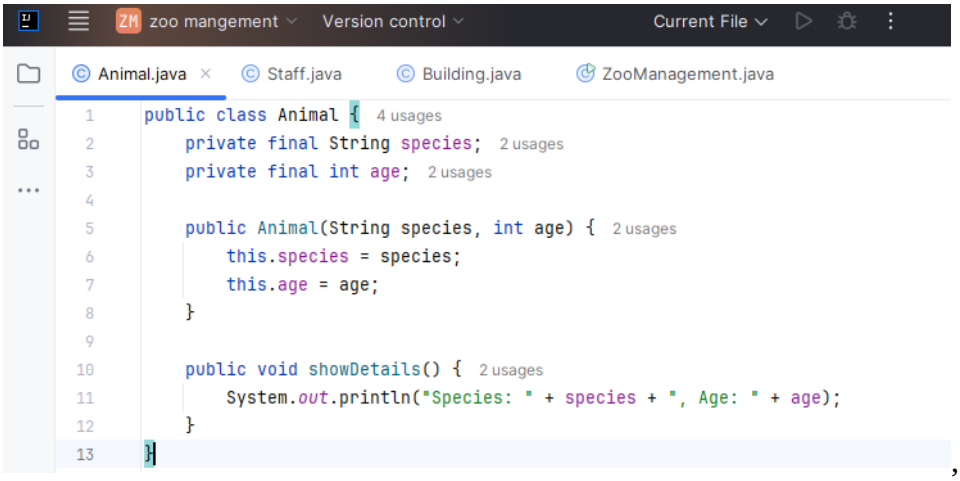
3.Building Class:

- Represents buildings in the zoo.
- Has attributes for name and purpose.
- showBuildingDetails() method displays the building's name and purpose.

4.ZooManagement Class:

- The main class where the program runs.
- Creates objects of Animal, Staff, and Building, then displays their details.

- **ANIMAL.JAVA**



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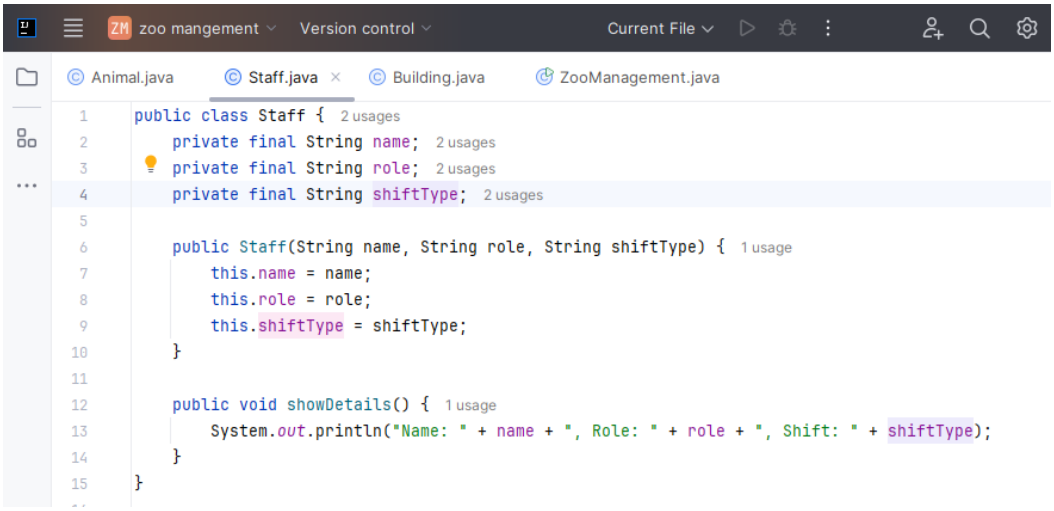
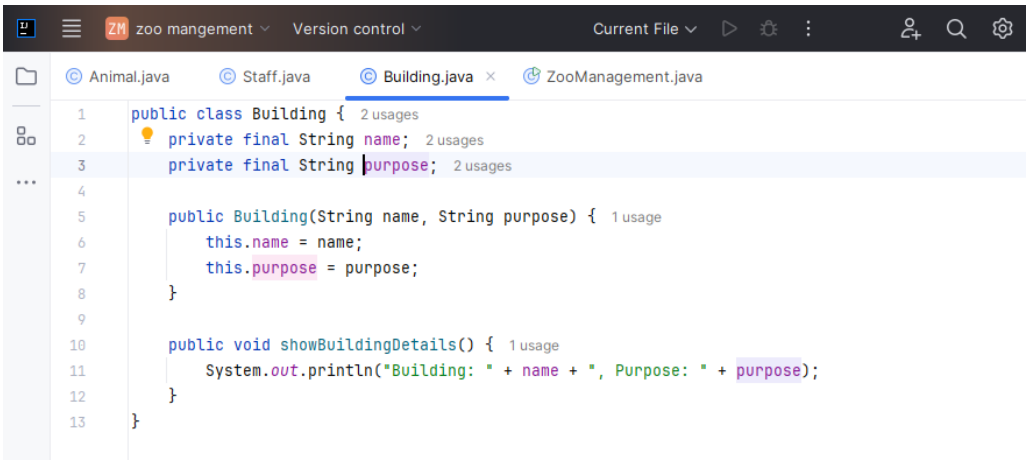
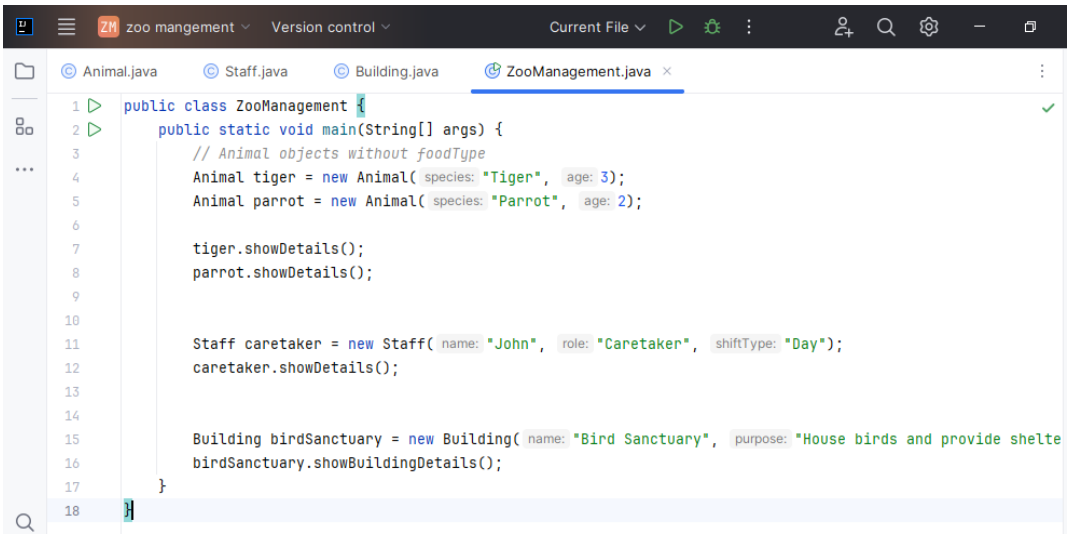
- **STAFF.JAVA**



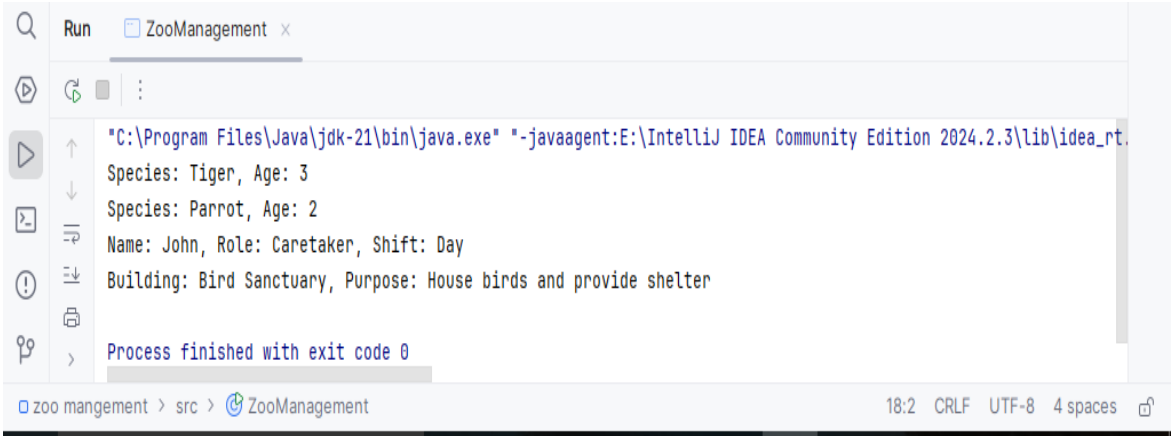
- **BUILDING.JAVA**



- **ZOO MANAGEMENT.JAVA**



- **OUTPUT**



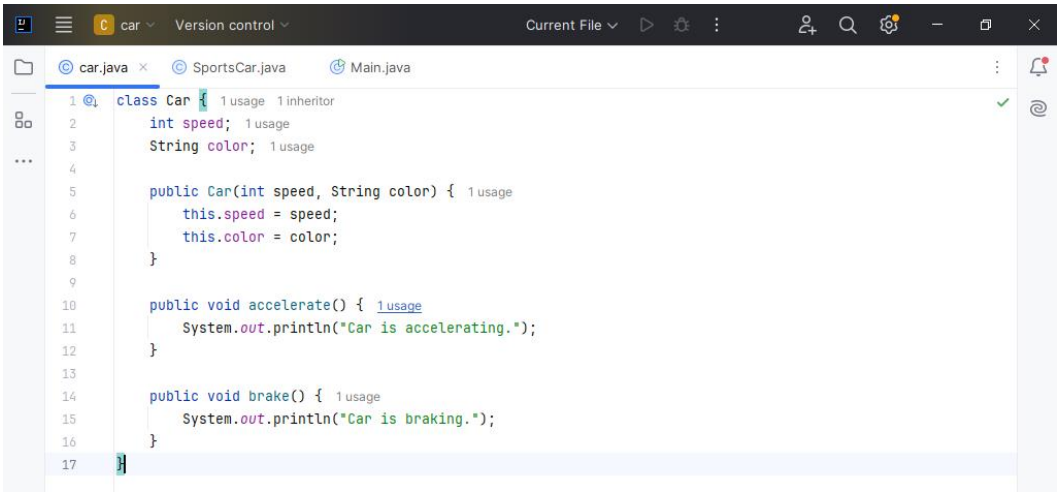
QUESTION NO:02

In this task, you'll explore inheritance by creating a SportsCar class based on an existing Car class. The Car class already has attributes like speed and color and methods like accelerate and brake.
Your job is to create a SportsCar class that inherits from the Car class and adds unique attributes or methods, such as turboBoost.

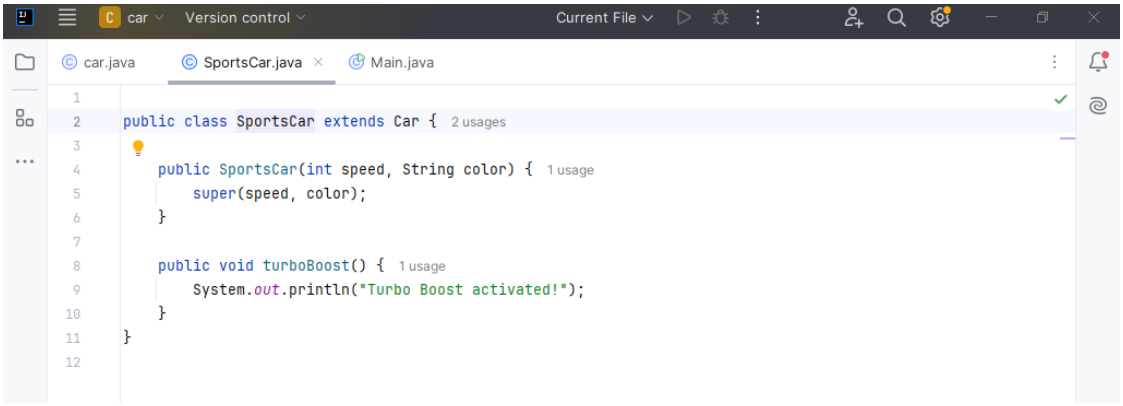
EXPLANTION:

1. **Car Class**: This is the base class with two main attributes, speed and color, and two methods, accelerate() and brake(), which print simple messages to show the car is speeding up or slowing down.
2. The **SportsCar** inherits basic car features from Car and adds its own feature (turboBoost).
3. The **Main class** creates an instance of SportsCar and demonstrates how it can use both the inherited methods (accelerate, brake) and its own method (turboBoost).

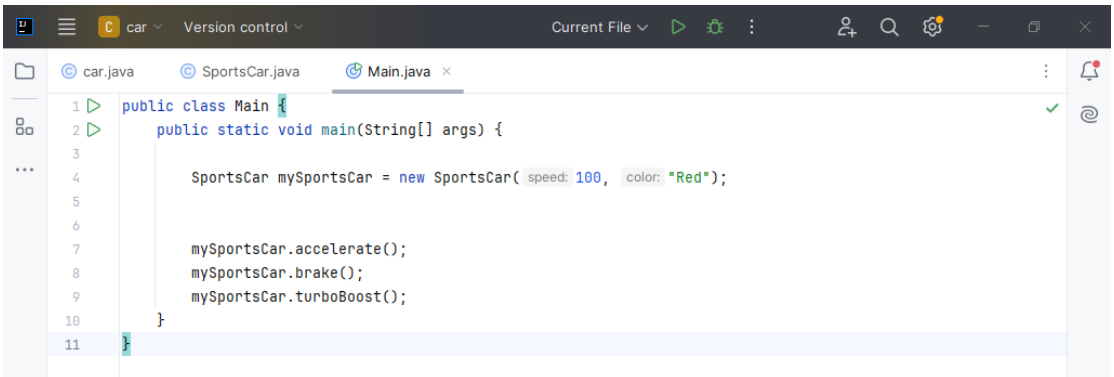
- **CAR.JAVA:**



- **SPORTSCAR.JAVA:**



- **MAIN.JAVA:**



- **OUTPUT:**


Run
Main
"C:\Program Files\Java\jdk-21\bin\java.exe" "-javaagent:E:\IntelliJ IDEA Community Edition 2024.2.3\lib\idea_rt.
Car is accelerating.
Car is braking.
Turbo Boost activated!
Process finished with exit code 0
car
src
Main
11:2
LF
UTF-8
4 spaces