

Instructions

Work on this homework individually.

You are **NOT** allowed to use the internet, or mobile phone.

You are **NOT** allowed to borrow anything from your peer student.

What you have to do

Program the following tasks. The name of your files will be according to the task given in this task.

Task 1

Write a Java program that finds the maximum and minimum numbers in an array.

- Take an array of integers.
- Take value of array from user
- Display the value in the array.
- Find and display the largest and smallest numbers in the array.

Task 2

Armstrong number is a number that is equal to the sum of cubes of its digits. For example 0, 1, 153, 370, 371 and 407 are the Armstrong numbers.

Write a Java program to find all Armstrong numbers within a user-defined range. The program should ask the user for the ending range and print all Armstrong numbers from 0 up to the given range.

Program should:

- Prompt the user for input to define the ending range
- Carefully handle invalid inputs
- Store Armstrong numbers in an array and display these at the end of the program.

Task 3

Suppose an employee gets paid every **month** and earns **2000.00** each pay period. In a year the employee gets paid 12 times. Write a program that defines the following variables:

- **payAmount:** This variable will hold the amount of pay the employee earns each pay period.
- **payPeriods:** This variable will hold the number of pay periods in a year.
- **annualPay:** This variable will hold the employee's total annual pay, which will be calculated.
- The program should calculate the employee's **total annual pay** by multiplying the employee's pay amount by the **number of pay periods** in a year, and store the result in the **annualPay** variable. Display the **total annual pay** on the screen.

No input from user is required.

Task 4

Car Management System in Java

You are required to create a **Car** class in Java with the following attributes:

- model (String)
- make (String)
- year (int)
- price (double)

All attributes must be **private**.

1. Constructors

- **Default constructor** (initializes attributes with default values).
- **Parameterized constructor** (initializes attributes with given values).
- Implement **getter and setter** methods for each attribute.

2. Methods

- **inputData():** Takes user input for all attributes.
- **showData():** Displays the details of the car.

3. Driver Class

- Create an **array of 5 Car objects**.
- Prompt the user to enter details for 5 cars.
- Display the entered car details.
- Display the car having **highest price** out of all.

😊😊😊 **BEST OF LUCK** 😊😊😊
