Question - 1:

What is wrong with each of the following programs?

![Program A](image1)
![Program B](image2)

![Program C](image3)
![Program D](image4)

Question - 2:

What is wrong in the following code?

```
1  class Test {
2     public static void main(String[] args) {
3         A a = new A();
4         a.print();
5     }
6  }
7
8  class A {
9     String s;
10    A(String newS) {
11        s = newS;
12    }
13    public void print() {
14        System.out.print(s);
15    }
16  }
17
```
Question-3:

What is the output of the following code?

```java
public class A {
  boolean x;

  public static void main(String[] args) {
    A a = new A();
    System.out.println(a.x);
  }
}
```

Question-4:

(\textit{The Rectangle class}) Following the example of the \texttt{Circle} class in Section 9.2, design a class named \texttt{Rectangle} to represent a rectangle. The class contains:

- Two \texttt{double} data fields named \texttt{width} and \texttt{height} that specify the width and height of the rectangle. The default values are 1 for both \texttt{width} and \texttt{height}.
- A no-arg constructor that creates a default rectangle.
- A constructor that creates a rectangle with the specified \texttt{width} and \texttt{height}.
- A method named \texttt{getArea()} that returns the area of this rectangle.
- A method named \texttt{getPerimeter()} that returns the perimeter.

Draw the UML diagram for the class and then implement the class. Write a test program that creates two \texttt{Rectangle} objects—one with width 4 and height 40 and the other with width 3.5 and height 35.9. Display the width, height, area, and perimeter of each rectangle in this order.

Question-5:

(\textit{The Stock class}) Following the example of the \texttt{Circle} class in Section 9.2, design a class named \texttt{Stock} that contains:

- A string data field named \texttt{symbol} for the stock’s symbol.
- A string data field named \texttt{name} for the stock’s name.
- A \texttt{double} data field named \texttt{previousClosingPrice} that stores the stock price for the previous day.
- A \texttt{double} data field named \texttt{currentPrice} that stores the stock price for the current time.
- A constructor that creates a stock with the specified symbol and name.
- A method named \texttt{getChangePercent()} that returns the percentage changed from \texttt{previousClosingPrice} to \texttt{currentPrice}.

Draw the UML diagram for the class and then implement the class. Write a test program that creates a \texttt{Stock} object with the stock symbol \texttt{ORCL}, the name \texttt{Oracle Corporation}, and the previous closing price of 34.5. Set a new current price to 34.35 and display the price-change percentage.