1. (20 pts) You are driving a little too fast, and a police officer stops you. Write code to compute the result: no ticket, small ticket, or big ticket. If your speed (represented by the integer variable `speed`) is 60 or less, the result is no ticket. If speed is between 61 and 80 inclusive, the result is a small ticket. If speed is 81 or more, the result is a big ticket. Unless it is your birthday (represented by the boolean variable `isBirthday`) -- on that day, your speed can be 5 higher in all cases.

Which of the following code segments correctly solve the problem above? Choose ALL that apply.

I. ```java
   if (speed <= 60 || (isBirthday && speed <= 65)) {
      System.out.println("No ticket");
   } else if (speed <= 80 || (isBirthday && speed <= 85)) {
      System.out.println("Small ticket");
   } else {
      System.out.println("Big ticket");
   }

II. ```java
    if (speed <= 60 && !isBirthday) {
      System.out.println("No ticket");
    } else if (speed <= 65) {
      System.out.println("No ticket");
    } else if (speed <= 80 && !isBirthday) {
      System.out.println("Small ticket");
    } else if (speed <= 85) {
      System.out.println("Small ticket");
    } else {
      System.out.println("Big ticket");
    }

III. ```java
    if (speed <= 60) {
      System.out.println("No ticket");
    } else if (speed <= 65 && isBirthday) {
      System.out.println("No ticket");
    } else if (speed <= 80) {
      return 1; System.out.println("Small ticket");
    } else if (speed <= 85 && isBirthday) {
      return 1; System.out.println("Small ticket");
    } else {
      System.out.println("Big ticket");
    }
```
2. (30 pts) Assume the statements below are part of a Java program which compiles and runs. What is the output if the user types 20?

```java
Scanner in = new Scanner(System.in);
int num = in.nextInt();

System.out.println("one");
if (num <= 40) {
    System.out.println("hi");
} else if (num <= 20) {
    System.out.println("cry");
} else if (num <= 10) {
    System.out.println("bye");
} else {
    System.out.println("sigh");
}

System.out.println("two");
if (num > 30) {
    System.out.println("hi");
} else {
    System.out.println("cry");
} if (num > 20) {
    System.out.println("bye");
} else {
    System.out.println("sigh");
}

System.out.println("three");
if (num % 10 == 0) {
    System.out.println("hi");
} if (num % 20 == 0) {
    System.out.println("cry");
}
if (num % 4 == 5) {
    System.out.println("bye");
} else {
    System.out.println("try");
}
```