Assignments

• create interface Printer with method  void print(String msg)
• create implementation GenericPrinter of the interface
• create implementations TimestampPrinter and LabelPrinter
  – for TimestampPrinter use System.out.println(new java.util.Date())
  – for LabelPrinter, “label” is set in constructor
• in constructors of all classes print out name of the class
  – test them by creating instances of all classes
• create class Logger
  – method addPrinter sets a printer
  – method log prints out message using the set printer
  – method setLevel sets a level – messages with lower level are ignored (i.e. the method does not print them out)
Assignments – cont.

- create interface MyCollection with methods
  - void add(Object o)
  - Object get(int i)
  - void remove(Object o)
  - void remove(int i)
- create an implementation of the MyCollection interface
  - use an array, which is reallocated if needed
- update the Logger, so that more than one Printer can be set

- add a `default` method to the Printer interface that prints an integer using the existing `print(String)` method
  - `default void print(int number)`
Assignments – for fast ones

• create an implementation of the MyCollection interface using a linked list
• Add declaration of “i” so that the program prints “YES” (is it possible?)

```java
    if (i == -i && i != 0) {
        System.out.println("YES");
    } else {
        System.out.println("NO");
    }
```
• Add declaration of “i” so that the program prints “YES” (is it possible?)

```java
if (i == -i && i != 0) {
    System.out.println("YES");
} else {
    System.out.println("NO");
}
```

• Solution
```
int i = Integer.MIN_VALUE;
```

• Explanation:
  - `Integer.MIN_VALUE = 0x80000000`
  - negation is $0x7fffffff + 1 = 0x80000000$
What does the program print out?:

```java
class LoopTest {
    public static void main(String[] argv) {
        int START = 2000000000;
        int count = 0;
        for (float f = START; f < START + 50; f++) {
            count++;
        }
        System.out.println(count);
    }
}
```

A 0  D  nothing
B 50  E  something else
C 49
What does the program print out?:

```java
public class LoopTest {
    public static void main(String[] argv) {
        int START = 2000000000;
        int count = 0;
        for (float f = START; f < START + 50; f++) {
            count++;
        }
        System.out.println(count);
    }
}
```

A 0   D  nothing
B 50  E  something else
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