## **Q1** Instructions

0 Points

To receive full credit on this quiz, you must score at least 50%.

The Github repo for Lecture 3 is at https://github.com/ucsd-cse12-w21/ucsd-cse12-w21.github.io/tree/master/lectures/lecture-03

Finish this quiz before 8AM on Monday, January 11.

## **Q2** Interfaces

3 Points

For Sub questions 2.1-2.3 reference the following code:

```
interface Iface {
 public boolean m();
 public int n();
class A implements Iface {
 public String s;
 public String x;
 public boolean m() {
  return true;
 }
 public int n() {
  return 12;
 }
}
class B implements Iface {
 public String s;
 public String y;
```

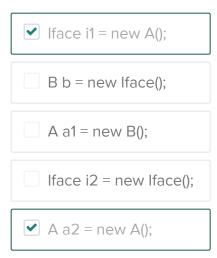
```
public boolean m() {
  return false;
}

public int n() {
  return 2;
}
```

## Q2.1

1 Point

Select all of the declarations below that would NOT cause a compile error:



## Q2.2

1 Point

Select all of the declarations below that would NOT cause a compile error:

| Iface i1 = new A(); String val1 = i1.s; |
|---|
| Iface i2 = new B(); String val2 = i2.x; |
| ✓ A a1 = new A(); String val3 = a1.s;   |
| A a2 = new A(); String val4 = a2.y;     |

### Q2.3

1 Point

What would be printed when the main method is executed?

```
class Q3 {
 A a1 = new A();
 boolean val1 = a1.m();
 Iface i1 = new B();
 int val2 = i1.n();
 Iface i2 = a1;
 int val3 = i2.n();
 public static void main(String[] args){
  Q3 q = new Q3();
  System.out.println(q.val1 + ", " + q.val2 + ", " + q.val3);
O false, 2, 12
O false, 12, 2
O false, 12, 12
O true, 2, 2
• true, 2, 12
O true, 12, 2
```

# **Q3** Tracing

2 Points

For Questions 3.1 and 3.2 reference the following code:

```
class Song {
  String title;
  String artist;
  int year;
```

```
public Song(String title, String artist, int year) {
  this.title = title:
  this.artist = artist;
  this.year = year;
}
class Playlist {
 String title;
 Song[] songs;
 int numSongs;
 public Playlist(int length, String title) {
  this.title = title:
  this.songs = new Song[length];
  this.numSongs = 0;
  for (int i = 0; i < songs.length; i++) {
   this.songs[i] = new Song("", "", 0);
 }
 public Playlist(String title, int length) {
  this.title = title;
  this.songs = new Song[length];
  this.numSongs = 0;
 }
 public boolean setSong(int index, Song song) {
  if (index >= this.songs.length || index < 0) return false;
  this.songs[index] = song;
  return true;
 // returns false if playlist already full, else true
 public boolean addSong(Song newSong) {
  if (this.songs.length == this.numSongs) return false;
  this.songs[this.numSongs] = newSong;
  this.numSongs++;
  return true;
```

}

### Q3.1

1 Point

How many total Song and Playlist objects are created?

Playlist playlist1 = new Playlist("90s Pop", 3); Song song1 = new Song("Say My Name", "Destiny's Child", 1999); Song song2 = new Song("I Want It That Way", "Backstreet Boys", 1999); playlist1.addSong(song1); playlist1.addSong(song2);

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- O 4
- **O** 5
- **O** 6
- **O** 7

#### Q3.2

1 Point

How many total Song and Playlist objects are created?

Playlist playlist2 = new Playlist(4, "More 90s Pop"); Song song3 = new Song("Wannabe", "Spice Girls", 1996); Song song4 = new Song("...Baby One More Time", "Britney Spears", 1998); playlist2.setSong(2, song3); playlist2.setSong(0, song4);

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