Questões de simulado sobre os temas: (Com respostas)

- 9.1 Implementando herança

- 9.2 Desenvolva código que mostra o uso de polimorfismo

01 - Given the code. What is the result?

```
class Vehicle {
	public void printSound() {
		System.out.print("vehicle");
	}
}

class Car extends Vehicle {
	public void printSound() {
		System.out.print("car");
	}
}

class Bike extends Vehicle {
	public void printSound() {
		System.out.print("bike");
	}
}

public class Test {
	public static void main(String[] args) {
		Vehicle v = new Car();
		Bike b = (Bike) v;
		v.printSound();
		b.printSound();
	}
}
```

Options:

A) Compilation fails.

B) An exception is thrown at runtime.

C) "vehiclecar" is printed.

D) "vehiclebike" is printed.

E) "carcar" is printed.

F) "bikebike" is printed

Resposta: B

2 - Give the code. What is the result?

```
class Hotel {
        public int bookings;
        public void book() {
                bookings++;
        }
}

public class SuperHotel extends Hotel {
        public void book() {
                bookings--;
        }
        public void book(int size) {
                book();
                super.book();
                bookings += size;
        }
        public static void main(String args[]) {
                SuperHotel hotel = new SuperHotel();
                hotel.book(2);
                System.out.print(hotel.bookings);
        }
}
```

Options:

A) Compilation fails.

B) An exception is thrown at runtime.

C) 0

D) 1

E) 2

F) -1

Resposta: E

3 - Given:

```
public class RediMix extends Concrete {
	RediMix() {
		System.out.println("r ");
	}

	public static void main(String[] args) {
		new RediMix();
	}
}

class Concrete extends Sand {
	Concrete() {
		System.out.print("c ");
	}

	private Concrete(String s) {}
}
abstract class Sand {
	Sand() {
		System.out.print("s ");
	}
}
```

What is the result?

A) r

B) c r

C) r c

D) s c r

E) r c s

F) Compilation fails due to a single error in the code.

G) Compilation fails due to multiple errors in the code.

Resposta: D

4 - Given:

```
public class Clover extends Harrier {
	String bark() {
		return "feed me ";
	}

	public static void main(String[] args) {
		Dog[] dogs = new Dog[3];
		dogs[0] = new Harrier();
		dogs[1] = (Dog) new Clover();
		dogs[2] = (Dog) new Harrier();
		for (Dog d : dogs) System.out.print(d.bark());
	}
}

class Dog {
	String bark() {
		return "bark ";
	}
}

class Harrier extends Dog {
	String bark() {
		return "woof ";
	}
}
```

What is the result? (Choose all that apply.)

A) bark bark bark

B) woof bark bark

C) woof feed me woof

D) Compilation fails due to an error on line 6.

E) Compilation fails due to an error on line 7.

F) Compilation fails due to an error on line 8.

G) Compilation fails due to an error on line 9.

Resposta: C

5 - Given:

```
 2. class SuperCool {
 3.     static String os = "";
 4.     void doStuff() { os += "super "; }
 5. }
 6. public class Cool extends SuperCool {
 7.     public static void main(String[] args) {
 8.         new Cool().go();
 9.     }
10.     void go() {
11.        SuperCool s = new Cool();
12.         Cool c = (Cool)s;
13.         // insert code here
14.     }
15.     void doStuff() { os += "cool "; }
16. }
```

If the rest of the code compiles, which line(s) of code, inserted independently at line 13, compile? (Choose all that apply.)

A) c.doStuff();

B) s.doStuff();

C) this.doStuff();

D) super.doStuff();

E) c.super.doStuff();

F) s.super.doStuff();

G) this.super.doStuff();

H) There are other errors in the code

Respostaa: A, B, C e D

6 - Given:

```
 4. class MySuper { protected MySuper() { System.out.print("ms "); } }
 5. public class MyTester extends MySuper {
 6.     private MyTester() { System.out.print("mt "); }
 7.     public static void main(String[] args) {
 8.         new MySuper();
 9.         class MyInner {
10.             private MyInner() { System.out.print("mi "); }
11.             { new MyTester(); }
12.             { new MySuper(); }
13.         }
14.         new MyInner();
15. } }
```

What is the result?

A) ms mi mt ms

B) ms mt ms mi

C) ms mi ms mt ms

D) ms ms mt ms mi

E) Compilation fails.

F) An exception is thrown at runtime.

Resposta: D

7 - Given:

```
class IcelandicHorse {
    void tolt() { System.out.print("4-beat "); }
}
public class Vafi extends IcelandicHorse {
    public static void main(String[] args) {
        new Vafi().go();
        new IcelandicHorse().tolt();
    }
    void go() {
        IcelandicHorse h1 = new Vafi();
        h1.tolt();
        Vafi v = (Vafi) h1;
        v.tolt();
    }
    void tolt() { System.out.print("pacey "); }
}
```

What is the result? (Choose all that apply.)

A) 4-beat pacey pacey

B) pacey pacey 4-beat

C) 4-beat 4-beat 4-beat

D) 4-beat pacey 4-beat

E) pacey, followed by an exception

F) 4-beat, followed by an exception

Resposta: B

8 - These classes are defined in the same file. What is the output?

```
class Parent {
    String message = "parent";
}

class Child extends Parent {
    String message = "child";
}

public class Test {
    public static void main(String[] args) {
        System.out.println(new Child().message);
    }
}
```

Options:

A) parent

B) child

Resposta: B

9 - These classes are defined in the same file. What is the output?

```
class Parent {
    void show(Parent parent) {
        System.out.println("parent");
    }
}

class Child extends Parent {
    void show(Child child) {
        System.out.println("child");
    }
}

public class Test {
    public static void main(String[] args) {
        Parent parent = new Parent();
        Child child = new Child();
        child.show(parent);
    }
}
```

What is the result?

A) parent

B) child

C) Compilation fails.

Resposta: A

10 - These classes are defined in the same file. Will this code compile successfully?

```
class Parent {
	Integer number;
}

class Child extends Parent {
	static Integer number;
}
```

Options:

A) Yes
B) No

Resposta: A