Object-Oriented Programming
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Term test — April 15, 2009

Surname:	
Name:	

1b	
2b	

The time for the test is 50 minutes.
Only one possibility is correct in questions. Mark your answer by a cross in the table. Only the answers in the table will be taken into consideration.
In case you have to change your answer, clearly mark the answer that holds. Each correct answer has the value stated in the question. An incorrect answer, masking several answers, or unclear marking of the answer has the value of 0 points. The explanation of a solution is not taken into account. Submit the paper undamaged.

	a	b	c	d	e
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

1. (1 b) The keyword **synchronized** is used to

(a) change thread execution priority
(b) lock the object for an exclusive access to its fields
(c) change the order of thread execution
(d) determine methods that may be executed concurrently
(e) join two threads

2. (1 b) The object behavior is given by

(a) the operations it provides
(b) values of its attributes
(c) the way it is created
(d) its attributes
(e) its initialization

3. (2 b) The Java code in Fig. 1 is given. What would be the output after executing the following statements:

```
A o = new B();
o.m();
o.s();
((B)o).s();
```

(a) a sa sb
(b) b sb sb
(c) a sb sb
(d) b sa sb
(e) sa b sa

4. (1 b) The following code is given

```
while (getObject(o)) {
   if (o instanceof A)
      ((A)o).opa();
   else if (o instanceof B)
      ((B)o).opb();
   else
      ;
}
```

```
class A {
   void m() { System.out.print("a "); }
   static void s() { System.out.print("sa "); }
}

class B extends A {
   void m() { System.out.print("b "); }
   static void s() { System.out.print("sb "); }
}
```

Figure 1: The code for questions 3, 5, and 6.

This code breakes

(a) the polymorphism principle
(b) the open and closed code principle
(c) Liskov substitution principle
(d) the principle of closed blocks
(e) the generalization and specialization principle

5. (1 b) The Java code in Fig. 1 is given. Is it possible to call the `s()` method of the `A` class from the equally named method of the class `B`?

(a) yes, using the **super**.`s()` statement;
(b) no
(c) yes, using the `s()` statement
(d) yes, using the ((`A`)**this**).`s()` statement
(e) yes, using the `A.s()` statement

6. (2 b) In addition to the classes from Fig. 1, the following code is given:

```
List<A> list = new ArrayList<A>();
list.add(new B());
```

This code would

(a) not compile because the `ArrayList` class is not generic
(b) not compile because only objects of the `A` type can be inserted into the `list` list
(c) not compile because the reference type of `list` does not correspond to the assigned object type
(d) compile and execute correctly
(e) compile, but would fail during execution with `ClassCastException`

7. (1 b) The code

```
BufferedReader stdin =
   new BufferedReader(
      new InputStreamReader(System.in));
```

performs

(a) the creation of the standard input
(b) the opening of the standard input
(c) a convenient work with the standard input
(d) the creation and opening of the standard input
(e) reading from the standard input

8. (1 b) An abstract class in Java

(a) can have only abstract methods
(b) can't have methods

(c) doesn't have to have abstract methods
(d) can't have initialized fields
(e) can't have overriding methods

9. (2 b) The following code is given:

```
class MyException extends Exception {}

class A {
   void m() throws MyException {
      . . .
   }
}

class B {
   void m() {
      new A().m();
   }
}
```

The method `m()` of the `B` class

(a) must declare or handle an exception of the `MyException` type
(b) must declare that it throws an exception of the `MyException` type
(c) is correct
(d) must throw an exception of the `MyException` type
(e) must handle an exception of the `MyException` type

10. (1 b) Let `n` be a class field. The `r` array is in one of the methods of the same class defined as follows:

```
Integer r[] = new Integer[n];
```

In Java, this definition is

(a) correct only if the `n` field is static
(b) incorrect
(c) correct only if the `n` field is final
(d) correct
(e) correct only if the `n` field is synchronized

11. (1 b) Encapsulation in Java classes

(a) can't be controlled
(b) is controlled by access modifiers
(c) is controlled by the **static** modifier
(d) is controlled by abstract methods
(e) is partially controlled by method synchronization

12. (1 b) In deciding whether to use inheritance between two classes, above all that should be considered

(a) are relationships among real objects represented by classes
(b) is the viewpoint of the assumed client code
(c) is its influence on the code efficiency
(d) mathematical abstraction of the objects represented by classes
(e) is the viewpoint of any possible client code

Objektovo-orientované programovanie **A**
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Semestrálny test — 3. apríl 2009

15 b

1 b

2 a

3 d

4 b

5 e

6 d

7 c

8 c

9 a

10 d

11 b

12 e