

1. When you create an instance of a generic class, what types can you pass as arguments to the class's type parameter?

- a. primitive types only
- b. reference types only
- c. interface types only
- d. primitive, reference, and interface types

2. In a generic method, a type parameter is defined_____.

- a. inside the parentheses, along with the method's parameter variables
- b. after the method's return type, and before the method's name
- c. before the method's return type
- d. inside the body of the method, but before any local variables are declared

3. Look at the following method header:

```
void displayPoint(Point <Number> myPoint)
```

Which of the following objects would we be allowed to pass as an argument to the displayPoint method? (Select all that apply.)

- a. Point <Number> p;
- b. Point <Integer> p;
- c. Point <Double> p;
- d. Point <String> p;

4. Look at the following method header:

```
void displayPoint(Point<?> myPoint myPoint)
```

Which of the following objects would we be allowed to pass as an argument to the displayPoint method? (Select all that apply.)

- a. Point <Number> p;
- b. Point <Integer> p;
- c. Point <Double> p;
- d. Point <String> p;

5. Look at the following method header:

```
void displayPoint(Point <? Extends Number> myPoint)
```

Which of the following objects would we be allowed to pass as an argument to the displayPoint method?
(Select all that apply.)

a. Point <Number> p;

b. Point <Integer> p;

c. Point <Double> p;

d. Point <String> p;

6. Look at the following method header:

```
void displayPoint(Point <? Super Double> myPoint)
```

Which of the following objects would we be allowed to pass as an argument to the displayPoint method?
(Select all that apply.)

a. Point <Number> p;

b. Point <Integer> p;

c. Point <Double> p;

d. Point <String> p;

7. In the generic-type notation <T extends Number> to what type of bound is T constrained?

a. an upper bound

b. a lower bound

c. both an upper bound and lower bound

d. T is not constrained to a bound

8. In the generic-type notation <T super Integer> to what type of bound is T constrained?

a. an upper bound

b. a lower bound

c. both an upper bound and lower bound

d. T is not constrained to a bound

9. Which of the following generic type notations uses a wildcard?

a. Point<W>

b. Point<T extends Number>

c. Point<T super Integer>

d. Point<?>

10. The process used by the Java compiler to remove generic notation and substitute an actual type for type parameters is known as _____.

- a. erasure
- b. removal
- c. substitution
- d. masking

11. **True or False:** It is better to discover an error at runtime than at compile time.
12. **True or False:** It is possible to instantiate a generic class without specifying a type argument.
13. **True or False:** Type parameters must be single character identifiers, written in uppercase.
14. **True or False:** You can constrain a type parameter to both an upper bound and lower bound.
15. **True or False:** A generic class can extend a non-generic class.
16. **True or False:** You cannot create an array of generic class objects.
17. **True or False:** A generic class's type parameter can be the type of a static field.
18. **True or False:** An exception class cannot be generic.

Algorithm Workbench

1.

```
ArrayList<Customer> customers = new ArrayList<>();
```

2.

```
12  
13 ArrayList<String> names = new ArrayList<>();  
14  
15 names.add(e: "William Jefferson");  
16
```

3.

```
2  
3 public class MyType <T extends String > {  
4  
5
```

4.

```
2  
3 public class MyType <T super Integer > {  
4  
5
```

5.

```
7
8     public static <T extends Comparable<T>> T max(T a, T b){
9
10         if (a.compareTo(b) > 0)
11             return a;
12         else
13             return b;
14     }
15
```

6.

```
2
3     public class MyType <T , S > {
4
5
```

7.

```
2
3     public class MyType <T extends Number, S extends String> {
4
5
6
```