

I Will the following code snippet compile? If not, why?

1. **public static void** print(List<? **extends** Number> list) {
 for (Number n : list)
 System.out.print(n + " ");
}

2. **class** MyClass<T> {
 public T getInstance() {
 T instance = **new** T();
 return instance;
 }
}

3. **class** MyClass<T> {
 public static T getFirst(T[] arr) {
 if(arr.length > 0)
 return arr[0];
 return null;
 }
}

4. **interface** I1<T> { ... }
 class MyClass **implements** I1<T> { ... }

5. **class** C1{}
 class C2 **extends** C1 {}
 class C3 **extends** C2 {}
 public class exercise {
 public static void main(String args[]) {
 List<C3> list = **new** ArrayList<>();
 m1(list);
 }
 static void m1(List<? **super** C2> list){}

6. **interface** I1{}
 class C1{}
 public class exercise {
 public static void main(String args[]) {}
 public static <T **extends** C1 & I1> **void** m2(){}
 }

7. <T **super** Number> **void** m3(T e){}

II Exercises

1. Define any class with overloaded generic methods
2. Write a generic method reverseArray that reverses the order of elements in an array.
3. Implement a generic method that takes an array of any type of number as argument and returns the sum of the elements of the array.
4. Given a non-generic class named C1 that has a member variable stack which was instantiated as: Stack<Number> stack = new Stack<>();
 - a) Add a generic method to class C1 that receives a list as argument and pushes all elements of the list to stack. Use a wildcard type.
 - b) Add a generic method to class C1 that receives a list as argument and adds all elements of stack to the list.
5. Design a generic class called SortedSet that defines a set which stores its elements in ascending order.