1. Given the records from the STUDENT table:

sid	sname		semail
111	James		james@uni.com
112	Jane		Jane@uni.com
114	John		john@uni.com

Given the code fragment:

```
public static void mainString []  args)  throws SQLException {
        //code to load and register valid jdbc driver go here
        Connection con = Drivermanager.getConnectionURL, username, password);
        Statement st = con.createStatement(ResultSet.TYPE_SCROLL_INSENSITIVE,
                                               ResultSet.CONCUR_UPDATABLE);
        st.execute “ SELECT * FROM student ” );
        ResultSet rs = st.getresultSet);
        rs.absolute(3);
        rs.moveToInsertRow();
        rs.updateInt1, 113);
        rs.updateString2, “ Jammet “);
        rs.updateString3, “ jannet@uni.com “);
        rs.updateRow();
        rs.refreshRow();
        System.out.println(rs.getInt(1) + “ : “ + rs.getString(2) + “ : “  + rs.getString(3));
}
```

Assume that the URL, username, and password are valid.

What is the result?

A) A SQLException is thrown at run time.

B) The STUDENT table is not update and the program prints:

114 : John : john@uni.com

C) The STUDENT table is updated with the record:

113 : Jannet : jannet@uni.com

and the program prints:

114 : John : john@uni.com

D) The STUDENT table is updated with the record:

113 : Jannet : jannet@uni.com

and the program prints :

113 : Jannet : jannet@uni .com

2. Given the code fragment:

```
Deque<String> queue = new ArrayDeque<>();
queue.add("Susan");
queue.add("Allen");
queue.add("David");
System.out.println(queue.pop());
System.out.println(queue.remove());
System.out.println(queue);
```

What is the result?

A) David
   David
   [Susan, Allen]

B) Susan
   Susan
   [Susan, Allen]

C) Susan
   Allen
   [Susan, David]

D) Susan
   Allen
   [David]

E) David
   Allen
   [Susan]

3. Given the code fragment:

```
List<Integer> li = Arrays.asList(10, 20, 30);

Function<Integer, Integer> fn = f1 -> f1 + f1;

Consumer<Integer> conVal = s -> System.out.print( “Val : “ + s + “ “ );

li.stream().map(fn).forEaeh(conVal);
```

What is the result ?

A) Val : 10 Val : 20 Val : 30

B) Val : 20 Val : 40 Val : 60

C) Val : Val : Val :

D) A Compilation error occurs.

4. Which code fragment is required to load a JDBC 3.0 driver?

A) Connection con = DriverManager.getConnection(“ jdbc : xyzdata : //localhost:3306/EmployeeDB”) ;

B) Connection con = Connection.getDriver(“jdbc : xyzdata : //localhotst:3306/EmployeeDB“) ;

C) Class.forName(“ org.xyzdata.jdbc.NetworkDriver“);

D) DriverManager.loadDriver(“org.xyzdaga.jdbc.NetworkDriver“);

5. Assume customers.txt is accessible and contains mulutiple lines.

Which code fragment prints the contents of the custoners.txt file?

A) Stream<Path> stream = Files.list(Paths.get(“customers.txt”));

    stream.forEach(c -> System.out.println(c));

B) Stream<String> lines = Files.lines(Paths.get(“custoners.txt”));

     lines.forEach(c -> System.out.println(c));

C) Stream<Path> stream = Files.find(Paths.get(“customers.txt”));

    stream.forEach(c -> System.out.println(c));

D) Stream<String> stream = Files.find(Paths.get(“customers.txt”));

   stream.forEach((String c) -> System.out.println(c));

6. Given the content:

MessagesBundle.properties file:

```
username = Enter User Name

password = Enter Password
```

MessageBundle_fr_FR.properties file:

```
username = Entrez le nom d’utilisateur

password = Entrez le mot de passe
```

and the code fragment:

```
Locale currentlocale = new Locale.Builder(). setRegion(“FR”), setLanguage(“fr”);

ResourceBundle messages = ResourceBundle.getBundle(“MessagesBundle”, currentlocale);

Enumeration<String> names = messages.getKeys();

while(names.hasMoreElements()){

            String key = names.nextElement();

            String name = messages.getString(key);

            System.out.pritln(key + “ – “ + name);

}
```

What is the result?

A) username = Enter User Name

password = Enter Password

B) username = Enterz le nom d’utilisateur

password = Enterz le mot de passe

C) A compilation error occurs.

D) The program prints nothing.

7. Which two are elements of a singleton class?

A) a public method to instantiate the single instance

B) a public reference to point to the single instance

C) a transient reference to point to the single instance

D) a public static method to return a copy of the singleton reference

E) a private constructor to the class

8. Given:

```
class Engine {
        double fuelLevel;
        Engine(int fuelLevel) { this.fuelLevel = fuelLevel; }
        public void start() {
                //line n1
                System.out.println(“Started”);
        }
        public void stop() { System.out.println(“Stopped”); }
        }
```

Your design requires that

- fuelLevel of Engine must be greater than zero when the start() method is prints Started.
- The code must terminate if fuelLevel of Engine is less than or equal to zero.

Which code fragment should be added at line n1 to express this invariant condition?

A) assert (fuelLevel) : “Terminating…”;

B) assert fuelLevel < 0 : System.exit(0);

C) assert (fuelLevel) > 0) : System.out.println(“Impossible fuel”);

D) assert fuelLevel > 0 : “Impossible fuel”;

9. Given the code fragment:

```
// Login time : 2015-01-12T21:58:18.817Z
Instant loginTime = Instant.now();
Thread.sleep(1000);
//Logout time : 2015-01-10T21:58:19.880Z
Instant logoutTime = Instant.now();
loginTime = loginTime.truncatedTo(ChronoUnit.MINUTES); //line n1
```

```
logoutTime = logoutTime.truncatedTo(ChronoUnit.MINUTES);
if(logoutTime.isAfter(loginTime))
        System.out.println(“Logged out at : “ +logoutTime);
else
        System.out.println(“Can’t logout”);
```

What is the result?

A) A compilation error occors at line n1.

B) Can’t logout

C) Logged out at : 2015-01-12T21:58:00Z

D) Logged out at : 2015-01-12T21:58:19.880Z

10. Given:

```
public class Foo<K, V> {
        private K key;
        private V value;
        public Foo(K key, V value ) { this.key = key; this.value =value;
        public static <T> Foo<T, T> twice(T value) { return new Foo<T, T>;}
        public K getKey() { return key; }
        public V getValue() { return value; }
}
```

Which option fails?

A) Foo<String, Integer> mark = new Foo<String, Integer>(“Steve”, 1);

B) Foo<String, String> pair = Foo.<String>twice(“Hello World!”);

C) Foo<object, Object> percentage = new Foo<String, Integer>(“Steve”,1);

D) Foo<String, String> grade = new Foo<>(“John”, “A”);

11. In 2015, daylight saving time in New York, USA, begins on March 8th at 2:00 AM to becomes 3:00 AM.

Given the code fragment:

```
ZoneId zone = ZoneId.of(“America/New_York”);
ZonedDateTime dt = ZonedDataTime.of(LocalDate.of(2015, 3, 8), Locale.zone);
ZonedDateTime dt2 = dt.plusHours(2);
System.out.print(DateTimeFormatter.ofPattern(“H:mm – “) .format(dt2));
System.out.println(“Difference: “ + ChornoUnit.HOURS.between(dt,dt2));
```

Which is the result?

A) 2:00 - difference: 1

B) 3:00 - difference: 2

C) 4:00 - difference: 3

D) 4:00 - Difference: 2

12. Which two methods from the java.util.stream.Stream interface perform?

A) distinct()

B) filter()

C) count()

D) collect()

E) peek()

13. Given the code fragment:

```
5. IntConsumer consumer = e -> System.out.println(e);
6. Integer value = 90;
7. /* insert code fragment here */
8. consumer.accept(result);
```

Which code fragment, when inserted at line 7, enables printing 100?

A) ToIntFunction funRef = e -> e + 10;

```
int result = funRef.apply(value);
```

B) ToIntFunction<Integer> funRef = e -> e + 10;

   int result = funRef. applyAsInt(value);

C) Function<Integer> funRef = e -> e + 10;

   Integer result = funRef.apply(value);

D) IntFunction funRef = e -> e + 10;

   Integer result = funRef.apply(10);

14. Given the information:

Locale	Currency Symbol	Currency code
US	$	USD

and the code fragment:

```
double d = 15;

Locale l = new Locale("en", "US");

NumberFormat formatter = NumberFormat.getCurrencyInstance();

System.out.println(formatter.format(d));
```

What is the result?

A) USD $15

B) USD 15.00

C) 15 $

D) $15.00

15.

```
        final List<String> list = new CopyOnWriteArrayList<>();

        final AtomicInteger ai = new AtomicInteger(0);

        final CyclicBarrier barrier = new CyclicBarrier(2, new Runnable() {

                public void run() { System.out.println(list); }

        } );

Runnable r = new Runnable() {
        public void run() {
                try {
                        Thread.sleep(1000 * ai.incrementAndGet());
                        list.add(“x”);
                        barrier.await();
                } catch(Exception ex) {
                }
        }
};
new Thread(r).start();
new Thread(r).start();
new Thread(r).start();
new Thread(r).start();
```

What is the result?

A) [X, X]

B) [X, X]

[X, X, X, X,]

C) [X]

[X, X]

[X, X, X]

D) [X]

[X, X]

[X, X, X]

[X, X, X, X]

16. What is true about the java.sql.Statement interface?

A) It provides a session with the database.

B) It provides a class for executing SQL statements and returning the result.

C) It is used to get an instance of a Connection object by using JDBC driver.

D) It Provides a cursor to fetch the resulting data.

17.

```
class Foo {
        public void methodB(String s) { System.out.println("Foo " + s) ; }
}
public class Bar extends Foo {
        public void methodB(String s) { System.out.println(“Bar “ + s) ; }
}
public class Baz extends Bar {
        public void methodB(String s) { System.out.println(“Baz “ + s) ; }
}
public class Daze extends Baz {
        private Bar bb = new Bar();
        public void methodB(String s) {
                bb.methodB(s);
                super.methodB(s);
        }
}
public class TestClass {
        public static void main(String [] args) {
                Baz d = new Daze();
                d.methodB(“Hello”);
        }
}
```

What is the result?

A) A compilation error occurs in the Daze class.

B) Bar Hello

   Foo Hello

C) Baz Hello

D) Bar Hello

   Baz Hello

18. Given the code fragments:

```
public class Video {
        public void play() throws IOException {
                System.out.print(“Video played.”);
        }
}
public class Game extends Video {
        public void play() throws Exception {
                super.play();
                System.out.print(“Game played.”);
        }
}
```

and

```
try {
        new Game() .play();
} catch(Exception e ) {
        System.out.print(e.getClass());
}
```

What is the result ?

A) class java.lang.Exception

B) Video played.Game played.

C) class java.io.IOException

D) A compilation error occurs.

19.

```
class Product {
            String pname;
            public Product (Stri        ng pname) {
                        this.pname = pname;
            }
}
```

and the code fragment:

```
Product p1 = new Product("PowerCharger");
Product p2 = p1;
System.out.println(p1.equals(p2));
Product p3 = new Product("PowerCharger");
System.out.println(p1.equals(p3));
```

What is the result?

A) false

false

B) true

true

C) true

false

D) false

true

20. Given the code fragment:

```
//line n1
```

```
Double d = str.average() .getAsDouble();
System.out.println(“Average = “ + d);
```

Which should be inserted into line n1 to print Average = 2.5?

A) IntStream str = IntStream.of(1, 2, 3, 4);

B) IntStream str = Stream.of(1, 2, 3, 4) ;

C) DoubleStream str = Stream.of(1.0, 2.0, 3.0, 4.0) ;

D) Stream str = Stream.of(1, 2, 3, 4) ;

21. Given the code fragment:

```
//line n1
System.out.println(iP) ;
```

Which code fragment, when inserted at line n1, enables the code to print /First.txt

A) Path iP = new Paths(“/First.txt”);

B) Path iP = new Path(“/First.txt”);

C) Path iP = Paths.get(“/”, “First.txt”);

D) Path iP = Paths.toPath(“/First.txt”);

22.
```
public class Product {
        public double applyDiscount(double price) {
                assert (price > 0) ; //line n1
                return price * 0.50;
        }
        public static void main(String [] args) {
                Product p = new Product();
                double newPrice = p.applyDiscount(Double.parseDouble(args[0]));
                System.out.println(“New Price: “ + newPrice);
        }
}
```

and the command:

```
            java Product 0
```

What is the result?

A) An AssertionErrer is thrown.

B) New Price : 0.0

C) A compilation error occurs at line n1.

D) A NumberFormatException is thrown at run time.

23.

```
 class MyClass implements AutoCloseable {
            int test;
            public void close() {  }
            public MyClass copyObject() { return this; }
}
```

and the code fragment:

```
MyClass obj = null;
try(MyClass obj1 = new MyClass()) {
            obj1.test = 100;
            obj = obj1.copyObject() ; //line n1
}
System.out.println(obj.test); //line n2
```

What is the result?

A) An exception is thrown at line n2.

B) A compilation error occurs because the try block is declard wit

C) A complation error occurs at line n1.

D) 100

24. Which class definition compiles?

```
A) class Computer {
            private Card sCard = new SoundCard();
            private abstract class card { }
            private class SoundCard extends Card { }
    }
```

```
B) class Vehicle {
            int id ;
            public void start() {
                        class Engine { int eNo = id; }
            }
    }
```

```
C) class Product {
            interface Moveable { void move() ; }
            Moveable mProduct = new Moveable() {
                        void move() {  }
            } ;
    }
```

```
D) class Block {
            int bno ;
            static class Counter {
                        int locator ;
                        Counter() { locator = bno; }
            }
    }
```

25. Student (id INTEGER, name VARCHAR)

Given the records from the STUDENT table:

ID	NAME
102	Edwin
103	Edward
103	Edwin

Given the code fragment:

```
Connection conn = DriverManager.getConnection(dbURL, userName, passWord);

Statement st = conn.createStatement();

String query = “DELETE FROM Student WHERE id = 103 “;

System.out.println(“ Status : “ + st.execute(query )) ;
```

Assume that:

The required database driver is comfigured in the classpath.

The appropriate database is accessible with the dbURL, userName, and passWord

What is the result?

A) A SQLException is thrown at runtime.

B) The program prints Status: true and two records are deleted from the student

C) The program prints Status: false but the records from the Student table are

D) The program prints Status: false and two records are deleted from the Student table.

26. Given the code fragment:

```
Map<Integer, Integer> mVal = new HashMap<>() ;

mVal.put(1, 10) ;

mVal.put(2, 20) ;

//line n1

c.accept(1, 2) ;

mVal.forEach(c) ;
```

Which statement can be inserted into line n1 to print 1, 2; 1, 10; 2, 20; ?

A) BiConsumer<Integer, Integer, String> c = (i, j) -> { System.out.print(i + “,” + j + “ ; “); } ;

B) BiFunction<Interger, Integer, String> c = (i, j) -> { System.out.print(i + “,” + j + “ ; “); } ;

C) BiConsumer<Integer, Integer> c = (i, j) -> { System.out.print(i + “,” + j + “ ; “); } ;

D) BiConsumer<Integer, Integer, Integer> c = (i, j) -> { System.out.print(i + “,” + j + “ ; “) ;} ;

27.

```
class Resource implements AutoCloseable {
        public void close() throws Exception {
                System.out.print(“Close- “);
        }
        public void open() {
                System.out.print(“Open-“) ;
        }
}
```

and this code fragment :

```
Resource res1 = new Resource() ;
try {
        res1.open() ;
        res1.close() ;
} catch(Exception e ) {
        System.out.println(“ Exception – 1 “ ) ;
}
try(res1 = new Resource()) { //line n1
        res1.open() ;
} catch(Exception e )  {
        System.out.println(“ Exception – 2 “ ) ;
}
```

What is the result ?

A) Open-Close-Open-

B) Open-Close-Open-Close-

C) Open-Close-

    Exception –1

    Open-Close-

28. Given the code fragment :

```
List<String> words = Arrays.asList(“win”, “try”, “best”, “luck”);
Predicate<String> test1 = w -> {
            System.out.println(“Checking . . . “);
            return w.equals(“do”) ;  // line n1
} ;
Predicate test2 = (String w ) -> w.length() > 3 ; //line n2
words.stream()
                        .filter(test2 )
                        .filter(test1 )
                        .count() ;
```

What is the result ?

A) Checking . . .
    Checking . . .

B) Checking . . .

C) A compilation errer occurs at line n1.

D) A compilation error occurs at line n2.

29.

```
interface Interface1 {
        public default void sayHi() {
                System.out.println(“Hi Interface-1”);
        }
}
interface Interface2 {
        public default void sayHi() {
                System.out.println(“Hi Interface-2” ) ;
        }
}
public class MyClass implements Interface1, Interface2 {
        public static void main(String [] args)  {
                Interface1 obj = new Myclass();
                obj.sayHi() ;
        }
        public void sayHi() {
                System.out.println(“Hi MyClass”) ;
        }
}
```

What is the result?

A) A compilation error occurs.

B) Hi MyClass

C) Hi Interface-2

D) Hi Interface-1

30.

```
List<Integer> prices = Arrays.asList(3, 4, 5);
prices.stream()
.filter(e -> e > 4)
.peek(e -> System.out.print(“Price “ + e)) //line n1
.map(n -> n – 1)  //line n2
.peek(n -> System.out.println(“ New Price ” +n));  //line n3
```

Which modification enables the code to print Price 5 New Price 4?

A) Replace line n2 with .mapToInt(n -> n - 1)

B) Replace line n3 with .forEach(n -> System.out.println(“ New Price ” +n))

C) Replace line n2 with .map(n -> System.out.println(“ New Price ” +n))

D) Replace line n1 with .forEach(e -> System.out.print(“Price “ + e))

31.

```
import java.util.Enumeration;
import java.util.Locale;
import java.util.ResourceBundle;

public class ResourcesApp {
        public void loadResourceBundle(){
                ResourceBundle resource = ResourceBundle.getBundle(“MyClass”);
                System.out.println(resource.getObject(1));
}
        public static void main(String[] args){
                new ResourcesApp().loadResourceBundle();
}
}
```

What is the result?

A) Goodbye everyone!

B) Hello, everyone!

C) GOODBYE_MSG

D) Compilation fails.

E) GELLO_MSG

32. Given the code fragment:

```
public static void main(String [] args){
        Stream.of(“Java”, “Unix”, “Linux”)
                .filter(s -> s.contains(“n”))
                .peek(s -> System.out.println(“PEEK: “ + s))
                // line n1
}
```

Which two code fragments, when inserted at line n1 independently?

A) .findAny();

B) .findFirst();

C) .allMatch();

D) .anyMatch();

E) .noneMatch();

33. Given the code fragment:

```
List<String> valList = Arrays.asList(“”, “George”, “”, “XX”);
Long newVal = valList.stream()   //line n1
        .filter(x -> !x.isEmpty())
        . count();               // line n2
System.out.print(newVal);
```

What is the result?

A) A compilation error occurs at line n2.

B) 2

C) 3

D) A compilation error occurs at line n1.

34. Given the code fragment:

ProductCode<Number, Integer> c1 = new ProductCode<Nember, Integer>(); /* c1 instantiation */

ProductCode<Number, String> c2 = new ProductCode<Number, String>(); /* c2 instantiation */

You have been asked to define the ProductCode class. The definition of the ProductCode class must allow c1 instantiation to succeed and cause a compilation error on c2 instantiation.

Which definition of ProductCode meets the requrement?

A) class ProductCode<T, S> {

```
        T c1;
        S c2;
        }
```

B) class ProductCode<T, S<Integer>> {

```
        T c1;
        S c2;
        }
```

C) class ProductCode<T, S extends T> {

```
        T c1;
        S c2;
        }
```

D) class ProductCode<T, S super T>{

```
        T c1;

        S c2;

        }
```

35. Given the code fragment:

```
List<String> li = Arrays.asList(“Java”, “J2EE”, “J2ME”, “JSTL”, “JSP”, “Hello”);

Predicate<String> val = p -> p.contains(“J”);

List<String> neLi = li.stream().filter(x -> x.length()>3)

        .filter(val).collect(Collectors.toList());

System.out.println(neLi);
```

What is the result?

A) null

B) A compilation error occurs.

C) [Java, J2EE, J2MF, JSTL]

D) [Java, J2EE, J2MR, JSTL, JSP]

36. Which two statements are true about the Fork/Join Framework?

A) The Fork/Join framework can help ouo take advantage of multicore hardware.

B) The Fork/Join solution when ren on multicore hardware always performs faster and sequential solution.

C) The Fork/Join framework implements a work-stealing algorithm.

D) The RecursiveTask subclass is used when a task does not need to return.

```
37. public static Optional <String> getCountry(String loc) {

        Optional <String> couName = Optional.empty() ;

        if(“Paris”.equals(loc))

                couName = Optional.of(“France”);

        else if(“Mumbai”.equals(loc))

                couName = Optional.of(“India”) ;
```

```
            return couName ;
}
```

and

```
Optional <String> city1 = getCountry(“Paris”);
Optional <String> city2 = getCountry(“Las Vegas”);
System.out.println(city1.orElse(“Not Found”)) ;
if(city2.isPresent())
            city2.ifPresent(x -> System.out.println(x));
else
            System.out.println(city2.orElse(“Not Found”));
```

What is the result?

A) Optional [France]
   Not Found

B) Optional [France]
   Optional [Not Found]

C) France
   Not Found

D) France
   Optional [Not Found]

38. MessagesBundle.properties file:

```
inquiry = How are you?
```

MessagesBundle_de_DE.properties file:

```
inquiry = Wie geht’s ?
```

and given the code fragment :

```
Locale CurrentLocale;
// line 1
ResourceBundle messages = ResourceBundle.getBundle“MessagesBundle”,  CurrentLocale);
```

```
System.out.printIn(messages.getString(“inquiry”));
```

Which two code fragments, when inserted at lone 1 independently, enable the code to “Wie geht’s?”

A) currentLocale = Locale.getInstance(Locale.GERMAN,Locale.GERMANY) ;

B) currentLocale = Locale.GERMAN;

C) currentLocale = new Locale.Builder().setLanguage(“de”).setRegion(“DE”);

D) currentLocale = new Locale(“de”,”DE”);

E) currentLocale = new Locale();

```
        currentLocale.setLanguage(“de”);
        currentLocale.setRegion(“DE”);
```

39. Given the code fragment

```
LocalTime now = LocalTime.now();
long timeToBreakfast = 0;
LocalTime office_start = LocalTime.of(7, 30);
If(office_start.isAfter(now)){
        timeToBreakfast = now.until(office_start, MINUTES);
} else {
        timeToBreakfast = now.until(office_start, HOURS);
}
System.out.println(timeToBreakfast);
```

Assume that the value of now is 6:30 in the morning.

What is the result?

A) An exception is thrown at run time.

B) 0

C) 1

D) 60

40.

```
public class Product {
    String name;
    Integer price;
    Product(String name, Integer price) {
        this.name = name;
        this.price = price;
    }
    pubilc void printVal() { System.out.print(name + " Price:" + price); }
    public void setPrice(int price) { this.price = price;}
    public void Integer getPrice {return price;}
}
```

and

```
List<Product> li = Arrays.asList(new Product("TV", 1000), new Product("Refrigerator", 2000));
Consumer<Product> raise = e -> e.setPrice(e.getPrice() + 100);
li.forEach(raise);
li.stream().forEach(Product ::printVal);
```

What is the result?

A) A compilation error occurs.

B) TV Price :1100 Refrigerator Price : 2100

C) TV Price :1000 Refrigerator Price : 2000

D) The program prints nothing.

41. Given that version.txt is accessible and contains:

```
    1234567890
```

and given the code fragment:

```
try(FileInputStream fis = new FileInputStream("Version.txt");
    InputStreamReader isr = new InputStreamReader(fis);
BufferedReader br = new BufferedReader(isr);){
    If(br.markSupported()) {
            System.out.print((char) br.read());
            br.mark(2);
            System.out.print((char) br.read());
            br.reset();
            System.out.print((char) br.read());
    }
} catch(Exception e) {
    e.printStackTrace();
}
```

What is the result?

A) The program prints nothing.

B) 122

C) 135

D) 121

42.

```
class Person {
        private String firstName;
        private int salary;
        public Person(String fN, int sal){
                this.firstName = fN;
                this.salary = sal;
                }
        public int getSalary() { return salary;}
        public String getFirstName() {return firstName;}
}
```

and the code fragment:

```
List<Person> prog = Arrays.asList(
        new Person(“Smith”, 1500),
        new Person(“John”, 2000),
        new Person(“joe”, 1000));
double dVal = prog.stream()
        .filter(s -> s.getFirstName().startsWith(“J”) )
        .mapToInt(Person :: getSalary)
        .average()
        .getAsDouble();
System.out.print(dVal);
```

What is the result?

A) 1500.0

B) 0.0

C) 2000.0

D) A compilation error occurs.

43. Given the definition of the Runner interface, and Vehicle, Car,and Jeep classes

```
interface Runner {}
abstract class Vehicle{ abstract void start();}
class Car extends Vehicle implements Runner{
        public void start(){
                System.out.println(getClass().getName() + “ Started”);
        }
}
```

Given:

```
class TestRunner{
        public static void check(Runner r){
```

```
        if(r instanceof Vehicle) {
            Vehicle v = (Vehicle) r;
            v.start();
        }
    }
    public static void main(String [] args){
        Runner v = new Car();
        check(v);
    }
}
```

What is the result?

A) A ClassCastException is thrown at runtime.

B) Car Started

C) Vehicle started

D) Runner Started

44. Given the code fargment:

```
public static void main(Staing [] args){
    Console console = System.console();
    char [] pass = console.readPassword(“Enter password:”); //line n1
    String password = new String(pass); // line n2
}
```

What is the result?

A) A compilation error occurs at line n2.

B) A compilation error occurs at line n1.

C) The code reads the password without echoing characters on

D) A compilation error occurs because the IOException isn’t

45.

```
class Block {
        String color;
        int size;
        Block(int size, String color){
                this.size = size;
                this.color = color;
        }
}
```

and the code fargment:

```
List<Block> blocks = new ArrayList<>();
blocks.add(new Block(10, “Green”));
blocks.add(new Block(7, “Red”));
blocks.add(new Block(12, “Blue”));
Collections.sort(blocks, new ColorSorter());
```

Which definition of the ColorSorter class sorts the block list?

```
A) class ColorSorter implements Comparable<Block> {
        public boolean compare(Block o1, Block o2) {
                return o1.color.equals(o2.color);
        }
}
```

46.

```
interface P { public void method1(); }
interface Q extends P { public void methob1() ; }
interface R extends P {public void method2; }
interface S { public default void method(){ }}
interface T { public void method1(); public void method2();}
interface U {public void method1(); public abstract void method2();}
```

Which two interfaces can you use to create lambda expressions?

A) T

B) Q

C) P

D) R

E) S

F) U

47.

```
class Product{
        String name;
        int qty;
        public String toString(){
                return name;
        }
        public Product(String name, int qty){
                this.name = name;
                this.qty = qty;
        }
        static class ProductFilter{
                public boolean isAvailable(Product p) { // line n1
                        return p . qty >= 10;
                }
        }
}
```

and the code fragment :

```
List <Product> products = Arrays.asList(
new Product(“MotherBoard”,5),
new Product(“Speaker”,20));
products.stream()
            .filter(Product.ProductFilter::isAvailable ) // line n2
            .forEach(p -> System.out.println(p));
```

which modification enables the code fragment to print speaker ?

A) Replace line n2 with :

```
   .filter(p -> Product :: ProductFilter :: isAvailable())
```

B) Replace line n1 with :

```
   public  static boolean isAvailable(Product p) {
```

C) Replace line n2 with :

```
   .filter(p -> p.ProductFilter :: isAvailable(p))
```

D) Implement Predicate in the Product.ProductFilter Class and replace

```
    .filter(p -> p.ProdictFilter.test(p))
```

48.

Given the code fragment :

```
final String str1 = “Java”;
StringBuffer strBuf = new StringBuffer(“Course”);
UnaryOperator<String> u = (str2) -> str1.concat(strBuf);  //line n1
UnaryOperator<String> c = (str3) -> str3.toLowerCase(u);  //line n2
System.out.println(u.apply(c.apply(strBuf)));
```

What is the result ?

A) A Compilation Error occurs at line n2.

B) A Compilation Error occurs at line n1.

C) courseJava

D) Javacourse

49.

Operator.java:

```
public abstract class Operator {
        protected void turnON();
        protected void turnOFF();
}
```

EngineOperator.java:

```
public class EngineOperator extends Operator{
        public final void turnON() {System.out.print(“ON”);}
        public final void turnOFF() {System.out.println(“OFF”);}
}
```

Engine.java:

```
public class Engine{
        Operator m = new EngineOperator();
        public void operate() {
                m.turnON();
                m.turnOFF();
        }
}
```

and the code fragment:

```
        Engine carEngine = new Engine();
        carEngine.operate();
```

What is the result?

A) The Operator.java file fails to compile.

B) The EngineOperator.Java file fails to compile.

C) The Engine.java File fails to compile.

D) ON OFF

50.

Given that data.txt and alldata.txt are accessible, and the

```
public void writeFiles() throws IOException {
        BufferedReader br = new BufferedReader(new FileReader(“data.txt”));
        BufferedReader bw = new BufferedWriter(new FileWriter(“alldata.txt”));
        String line = null;
        while((line = br.readLine()) != null ){
        bw.append(line + “\n”);
}
//line n1
}
```

What is required at line n1 to enable the code to overwrite all

A) bw.flush();

B) br.close();

C) br.flush();

D) bw.writeln();

51.

Given the code fragment:

```
Stream<List<String>> strs = Stream.of(
        Arrays.asList(“text1”, “text2”),
        Arrays.asList(“text2”, “text3”));
Stream<String> bs2 = strs
.filter (b -> b.contains(“text1”))
.flatMap (rs -> rs.stream());
```

```
bs2.forEach(b -> System.out.print(b));
```

What is the result?

A) [text1, text2]

B) text1text2text2text3

C) text

D) text1text2

52.

Given the code fragment:

```
List<String> cs = Arrays.asList("Java", "Java EE", "Java ME");
//line n1
System.out.print(b);
```

Which code fragment, when inserted at line n1, ensures false is print?

A) boolean b = cs.stream() .findAny() .get() .equals("Java");

B) boolean b = cs.stream() .anyMatch (w -> w.equals("Java"));

C) boolean b = cs.stream() .allMatch (w -> w.equals("Java");

D) boolean b = cs.stream() .findFirst() .get() .equals("Java");

53.

Given:

```
class Student {
            String course, name, city;
public Student (String name, String course, String city){
            this.course = course; this.name = name; this.city = city;
}
public String  toString() {
return course + ":" + name + ":" + city;
}
public String getCourse() {return course;}
```

public String getName() {return name;}

public String getCity() {return city;}

}

and the code fragment:

List<Student> stds = Arrays.asList(

new Student (“Jessy”, “Java ME”, “Chicago”),

new Student (“Helen”, “Java EE”, “Houston”),

new Student (“Mark”, “Java ME”, “Chicago”));

stds.stream()

.collect(Collectors.groupingBy(Student :: getCourse))

.forEach((src, res) -> System.out.println(src));

What is the result?

A) A compilation error occurs.

B) Java EE

   Java ME

C) [Java EE:Helen:Houston]

   [Java] ME:Jessy:Chicago, Java ME:Mark:Chicago]

D) [Java ME:Jessy:chicago, Java ME:Mark:Chicago]

    [Java EE:Helen:Houston]

54.

class Person {

            String name;

int age;

public Person(String name, int age){

this.name = name;

this.age = age;

}

public String getName() {return name;}

```
public int getAge() {return age;}
}
```

and the code fragment:

```
List<Person> sts = Arrays.asList(
new Person(“Jack”, 30),
new Person(“Mike Hill”, 21),
new Person(“Thomas Hill”, 24));
Stream<Person> resList = sts.stream().filter(s ->s.getAge()>=25);
long count = resList.filter(s ->s.getName().contains(“Hill”)).count();
System.out.print(count);
```

What is the result?

A) An Exception is thrown at run time.

B) 2

C) 0

D) A compilation error occurs at line n1.

55.

Given the code fragments:

```
public class Test {
List<String> list = null;
public void printValues(){
System.out.print(getList());
}
public List<String> getList(){return list;}
public void setList (List<String> newList){list = newList;}
}
```

and

```
List<String> li=Arrays.asList(“Dog”, “Cat”, “Mouse”);
```

```
Test t=new Test();

t.setList(li.stream().collect(Collectors.toList()));

t.getList().forEach(Test :: printValues);
```

What is the result?

A) A compilation error occurs.

B) DogCatMouse

C) [Dog, Cat, Mouse]

D) null

56.

```
public class Book {

private  int id;

private String name;

public Book(int id, String name) {this.id = id; this.name = name;}

public int getId() {return id;}

public String getName(){return name;}

public void setId(int id) {this.id=id;}

public void setName(String name) {this.name = name;}
```

Which statement is true about the Book class?

A) It is an immutable class.

B) It demonstrates polymorphism.

C) It demonstrates encapsulation.

D) It is defined using the singleton design pattern.

E) It is defined using the factory design pattern.

57.

Given that these files exist and are accessible:

/sports/info.txt

/sports/cricket/players.txt

/sports/cricket/data/ODI.txt

and given the code fragment:

```
int maxDepth = 2;
Stream<Path>paths = Files.find(Paths.get(“/sports”),
maxDepth,
(p, a) -> p.getFileName().toString().endsWith(“txt”),
FileVisitOption.FOLLOW_LINKS);
Long fCount = paths.count();
System.out.println(fCount);
```

Assuming that there are NO soft-link/symbolic links to any of the files the result?

A) 2

B) 3

C) 1

D) An Exception is thrown at runtime.

58.

Given the code fragment

```
Path path1 = Paths.get("/software/././sys/readme.txt");
Path path2 = path1 . normalize() ;
Path path3 = path2 . relativize(path1) ;
System.out.print (path1.getNameCount());
System.out.print (":" + path2.getNameCount());
System.out.print (":" + path3.getNameCount());
```

what is the result ?

A) 3 : 3 : 4

B) 5 : 3 : 6

C) 6 : 5 : 6

D) 4 : 4 : 4

59.

Given the code fragment :

```
List <String> nums = Arrays.asList(“EE” , “ SE”);

String ans = nums

            .parallelStream ()

            .reduce(“Java”,(a,b) -> a.concat(b)) ;

System.out.print (ans) ;
```

What is the result ?

A) The program prints either :

Java EESE

or

Java SEEE

B) The program prints either :

Java EEJava SE

or

Java SEJava EE

C) Java EESE

D) JavaEEJavaSE

E) Java EEJava EESE

60.

```
public interface LengthValidator{
    public boolean checkLength(String  str);
}
```

and

```
public class Txt {
    public static void main(String[] args){
        boolean res = new LengthValidator(){
            public boolean checkLength(String str){
                return str.length()>5 && str.length() < 10;}
        }.checkLength(“Hello”);
    }
}
```

Which interface from the java.util.function package should you use that?

A) Supplier

B) Predicate

C) Function

D) Consumer

61.

```
Connection con = null;
try{
//line n1
if(con != null){
    System.out.print(“Connection Established.”);
}
}catch(Exception e){
System.out.print(e);
}
```

Assume that dbURL, userName, and password are valid

Which code fragment can be inserted at line n1 to enable the code to print **Connection Established**?

A) Properties prop = new Properties();

prop.put(“user”, userName);

prop.put(“password”, password);

con = DriverManager.getConnection(dbURL, prop);

B) con = DriverManager.getConnection(dbURL);

con.setClientInfo(“user”, userName);

con.setClientInfo(“passwrod”, password);

C) con = DriverManager.getConnection(userName, password, dbURL);

D) Properties prop = new Properties();

prop.put(“userid”, userName);

prop.put(“password”, password);

con = DriverManager.getConnection(dbURL, prop);

62.

```
class FuelNotAvailException extends Exception {}
class Vehicle{
        void ride() throws FuelNotAvailException { //line n1
                System.out.println(“Happy Journey!”);
                }
}
class SolarVehicle extends Vehicle{
        public void ride() throws Exception { //line n2
                super.ride ();
}
}
```

and the code fragment:

```
public static void main(String[] args) throws FuelNotAvailException{
        Vehicle v = new SolarVehicle();
        v.ride();
        }
```

Which modification enables the code fragment to print Happy Journey!?

A) Replace line n1 with public void ride() throws FuelNotAvailException

B) Replace line n1 with protected void ride() throws Exception {

C) Replace line n2 with void ride() throws Exception {

D) Replace line n2 with private void ride() throws FuelNotAvailException

63.

```
class R implements Runnable {
        public void run() { System.out.println(“Run…”); }
}
class C  implements Callable<String> {
        public String call() throws Exception { return “call…”;}
}
```

and

```
ExecutorService es = Executors.newSingleThreadExecutor();
es.execute(new R());                     // line n1
Future<String> f1 = es.submit(new C());  // line n2
try{
System.out.println(f1.get());
}catch(Exception e){}
es.shutdown();
```

What is the result?

A) Run…

Call…

B) A compilation error occurs at line n1.

C) The program prints Run… and throws an exception.

D) A compilation error occurs at line n2.

64.

```
public class Country {
        public enum Continent {ASIA, EUROPE}
        String name;
        Continent region;

        public Country(String na,Continent reg){
                name = na; region = reg;
        }
        public String getName()  {return name;}
        public Continent getRegion() {return region;}
}
```

and the code fragment:

```
List<Country> couList = Arrays.asList(
new Country("Italy", Country.Continent.EUROPE),
new Country("Japan", Country.Continent.ASIA),
new Country("Germany", Country.Continent.EUROPE));
Map<Country.Continent, List<String>> regionNames = couList.stream()
.collect(Collectors.groupingBy(Country:: getRegion,
Collectors.mapping(Country::getName, Collectors.toList())));
System.out.println(regionNames);
```

what is the output?

A) {EUROPE=[Germany], EUROPE=[Italy], ASIA=[Japan] }

B) {EUROPE=[Germany, Italy], ASIA=[Japan] }

C) {ASIA=[Japan], EUROPE=[Italy, Germany] }

D) {EUROPE=[Italy, Germany], ASIA=[Japan] }

65.

Given the code fragment:

```
Deque<Integer> nums = new ArrayDeque<>();
nums.add(1000);
nums.push(2000);
nums.add(3000);
nums.push(4000);
Integer i1 = nums.remove();
Integer i2 = nums.pop();
System.out.println(i1 + ” : ” + i2);
```

What is the result?

A) 1000 : 2000

B) 4000 : 2000

C) 4000 : 1000

D) 1000 : 4000

66.

Which statement is true about the DriverManager class?

A) It is written by different vendors their specific database.

B) It executes SQL statements against the database.

C) It returns an instance of Connection

D) It only queries metadata of the database.

67. Given the content of the Book.java, EBook.java, Shop.java, and Customer.java

```
// Book.java:
public final class Book{
    public void read() {  }
}
//EBook.java:
publice class EBook extends Book {
    public final int print (int x, int y) {return 1;}
    public void transfer() { }
}
// Shop.java:
public class Shop{
    prinvate Book b = new EBook();
    prinvate final int quantity = 200;
    public void read() {
        b.print(13, 31);
    }
}
//Customer.java
public class Customer {
    public final int read(int x, int y){return 1;}
    public final void buy() {  }
}
```

Which two classes compile?

[✓ A) Customer]

B) Shop

[✓ C) Book]

D) EBook

68.

```
public class StrMan {
        public static void doStuff(String s) {
                try {
                        if (s == null) {
                                throw new NullPointerException();
                        }
                } finally {
                        System.out.println(“-finally-”);
                }
                System.out.println(“-doStuff-“);
        }
        public static void main(String[] args){
                try{
                        doStuff(null);
                }  catch (NullPointerException npe) {
                         System.out.println(“-catch-”);
                }
        }
}
```

what is the result?

A) -catch-

-finally-

-dostuff-

B) -finally-

-doStuff-

-catch-

C) -finally-

-catch-

D) -finally-

-catch-

-doStuff-

69. Given the code fragment:

```
Path source = Paths.get("/data/december/log.txt");
Path destination = Paths.get("/data");
Files.copy(source, destination);
```

and assuming that the file /data/december/log.txt is accessible and contain contents

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what is the result?

A) The program executes successfully and does NOT change the file system.

B) A file with the name log.txt is created int the /data directory and the content the /data/december/log.txt file is copied to it.

C) A FileNotFoundException is thrown at run time.

D) A FileAlreadyExistsException is therown at ren time.

70.

```
public class Vehicle{
        int vId;
        String vName;
        public Vehicle(int vIdArg, String vNameArg) {
                this.vId = vIdArg;
                this.vName = vNameArg;
        }
        public int getVId()  {return vId;}
        public String getVName() {return vName;}
        public String toString() {
                return vName;
        }
}
```

and the code fragment:

```
List<Vehicle> vehicle = Arrays.asList(
        new Vehicle(2, “Car”),
        new Vehicle(3, “Bike”),
        new Vehicle(1, “Truck”));
vehicle.stream()
        //line n1
        .forEach(System.out::print);
```

Which two code fragments, when inserted at line n1 independently, enable the code print TruckCarBike?

A) .sorted((v1, v2) -> Integer.compare(v1.getVId(), v2.getVId()))

B) .sorted(Comparator.comparing((Vehicle v) -> v.getVId()))

C) .map(v ->v.getVId())

   .sorted()

D) .map(v ->v.getVId())

   .sorted()

   .compare(v1.getVId(), v2.getVId()))

71. Given:

```
class DataConverter{
        public void copyFlatFilesToTables() { }
        public void close() throws Exception {
                throw new RuntimeException(); //line n1
        }
}
```

and the code fragment:

```
public static void main(String[] args)throws Exception {
        try (DataConverter dc = new DataConverter()) //line n2
        { dc.copyFlatFilesToTavles(); }
}
```

What is the result?

A) A compiltion error occurs because the try block doesn’t have a catch or final.

B) A compiltaion error occurs at line n2.

C) A compilation error occurs at line n1.

D) The program compiles successfully.

72. Given the code fragment:

```
List<String> qwords = Arrays.asList(“why ”, “what ”, “when ”);
BinaryOperator<String>operator =(s1, s2) ->s1.concat(s2); //line n1
String sen = qwords.stream()
        .reduce(“Word: ”, operator);
System.out.println(sen);
```

What is the result?

A) Word: why what when

B) Word: why Word: why what Word: why what when

C) Word: why Word: what Word: when

D) Compilation fails at line n1.