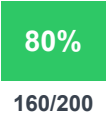




You can view this report online at : <https://www.hackerrank.com/x/tests/765284/candidates/17977913/report>

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Email:	xc4@andrew.cmu.edu
Test Name:	AD - KBA - JDBC & ORM & Unit Testing
Taken On:	1 Oct 2020 09:16:13 EDT
Time Taken:	75 min 3 sec/ 80 min
City:	BUFFALO
Course:	[TEK Boston] 2020-Java Developer 01
Invited by:	Customized
Invited on:	30 Sep 2020 17:01:16 EDT



scored in **AD - KBA - JDBC & ORM & Unit Testing** in 75 min 3 sec on 1 Oct 2020 09:16:13 EDT

Skills Score:

Tags Score:

JDBC	0/10
JUnit	10/10
api	40/40
build	10/10
classes	20/30
code	10/10
collection	20/20
collections	20/20
component	40/40
components	10/10
composition	10/10
content	10/10
database	70/80
developer	120/140
distributed	10/10
dynamic	10/10
element	10/10
file	10/20
framework	20/20
functional	20/30
generator	10/10
hibernate	10/10
java	90/100
jdbc	120/140
language	10/10
manager	30/40
manual	10/10
performance	10/10
programming	10/10
request	10/10
sentry	0/10

software	30/30
spring	10/10
sql	30/30
testing	120/140
util	10/10

Recruiter/Team Comments:

No Comments.

	Question Description	Time Taken	Score	Status
Q1	Statement vs PreparedStatement > Multiple Choice	2 min 38 sec	10/ 10	✓
Q2	Vocabulary: JDBC > Multiple Choice	17 sec	10/ 10	✓
Q3	JPA Providers > Multiple Choice	1 min 48 sec	10/ 10	✓
Q4	What is a JDBC Connection? > Multiple Choice	5 min 22 sec	10/ 10	✓
Q5	What is JDBC? > Multiple Choice	2 min 23 sec	10/ 10	✓
Q6	What is a JDBC ResultSet? > Multiple Choice	1 min 11 sec	10/ 10	✓
Q7	What is a JDBC Statement? > Multiple Choice	1 min 52 sec	10/ 10	✓
Q8	What is a JPA Entity? > Multiple Choice	3 min 13 sec	10/ 10	✓
Q9	executeQuery vs executeUpdate > Multiple Choice	3 min	10/ 10	✓
Q10	What is a JPA EntityManagerFactory? > Multiple Choice	5 min 24 sec	0/ 10	✗
Q11	How can we test a method declared as protected? > Multiple Choice	1 min 36 sec	10/ 10	✓
Q12	What is JUnit ? > Multiple Choice	28 sec	10/ 10	✓
Q13	Parameterized tests > Multiple Choice	37 sec	10/ 10	✓
Q14	hasEntry > Multiple Choice	1 min 40 sec	0/ 10	✗
Q15	assertEquals() > Multiple Choice	4 min 34 sec	10/ 10	✓
Q16	What does executeUpdate return if multiple lines are affected? > Multiple Choice	12 min 23 sec	10/ 10	✓
Q17	Does .persist() method updates or inserts > Multiple Choice	11 min 26 sec	10/ 10	✓
Q18	Output of the following code snippet > Multiple Choice	5 min 5 sec	0/ 10	✗
Q19	@BeforeAll (JUnit 5) or @BeforeClass (JUnit 4) > Multiple Choice	8 min 6 sec	0/ 10	✗
Q20	assertEquals() > Multiple Choice	1 min 49 sec	10/ 10	✓

QUESTION 1

Correct Answer

Score 10

Statement vs PreparedStatement > Multiple Choice

sql

developer

java

jdbc

performance

testing

QUESTION DESCRIPTION

What Are some differences between the Statement and the PreparedStatement interfaces in Java?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: sql , developer, java, jdbc, performance, testing

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ When using the PreparedStatement interface, you can pass parameters to your SQL query at run time; this can not be done when using the Statement interface.
- ☒ ☐ When used for multiple executions of the same query, the performance of the PreparedStatement interface is better than the Statement interface.
- ☐ When using the Statement interface, you can pass parameters to your SQL query at run time; this can not be done when using the PreparedStatement interface.
- ☐ When used for multiple executions of the same query, the performance of the Statement interface is better than the PreparedStatement interface.

No Comments

QUESTION 2

Correct Answer

Score 10

Vocabulary: JDBC > Multiple Choice

build

collection

collections

component

components

composition

database

developer

distributed

dynamic

java

jdbc

testing

QUESTION DESCRIPTION

What does JDBC stand for?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: build, collection, collections, component, components, composition, database, developer, distributed, dynamic, java, jdbc, testing

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ Java Distributed Computing
- ☒ ☐ Java Database Connectivity
- ☐ Java Data Building Components
- ☐ Java Dynamic Composition Collections

No Comments

QUESTION 3

Correct Answer

Score 10

JPA Providers > Multiple Choice

developer

hibernate

jdbc

spring

testing

QUESTION DESCRIPTION

What are some well known JPA Providers?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: developer, hibernate, jdbc, spring, testing

CANDIDATE ANSWER**Options:** (Expected answer indicated with a tick)

Hibernate



Eclipselink



Spring Data JPA



ORM



JDBC

No Comments

QUESTION 4

Correct Answer

Score 10

What is a JDBC Connection? > Multiple Choice

api

component

database

developer

java

jdbc

manager

software

testing

QUESTION DESCRIPTION

What is a JDBC Connection?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: api , component, database, developer, java, jdbc, manager, software, testing

CANDIDATE ANSWER**Options:** (Expected answer indicated with a tick)

A Java object that represents a unique connection to a database, that is often opened by using the methods of the DriverManager class, before you can read/write data from/into a database using JDBC.



A software component that is required by the JDBC API to interact with the database, that is supplied by the database vendor along with the database and that is very often unique for each database



A Java object that can be used to execute either database queries or database updates when using JDBC.



A Java object that can be created by executing a database query using JDBC, that contains records returned by the execution of that query and that can be used iterate through those records.

No Comments

QUESTION 5

Correct Answer

Score 10

What is JDBC? > Multiple Choice

api

sql

classes

collection

collections

database

developer

element

framework

generator

java

jdbc

testing

util

QUESTION DESCRIPTION

What is JDBC?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: api , sql , classes, collection, collections, database, developer, element, framework, generator, java, jdbc, testing, util

CANDIDATE ANSWER**Options:** (Expected answer indicated with a tick)

- ☐ A Java API that allows for the use of SQL queries and commands, and the handling data sets without the need of connecting to a database.
- ☒ A Java API that manages connecting to a database, issuing queries and commands, and handling result sets obtained from the database.
- ☐ A Java API that allows for a the creation of connections as sequences of elements from sources that supports aggregate operations. The source here refers to a Collection or Arrays that provide data to the JDBC connections.
- ☐ A Java package that contains the collections framework, legacy collection classes, event model, date and time facilities, internationalization, and miscellaneous utility classes (a string tokenizer, a random-number generator, and a bit array) to be used as a pseudo relational database withing java applications.

No Comments

QUESTION 6

Correct Answer

Score 10

What is a JDBC ResultSet? > Multiple Choice

api

component

database

developer

java

jdbc

manager

software

testing

QUESTION DESCRIPTION

What is a JDBC ResultSet?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: api , component, database, developer, java, jdbc, manager, software, testing

CANDIDATE ANSWER**Options:** (Expected answer indicated with a tick)

- ☒ ☐ A Java object that can be created by executing a database query using JDBC, that contains records returned by the execution of that query and that can be used iterate through those records.
- ☐ A software component that is required by the JDBC API to interact with the database, that is supplied by the database vendor along with the database and that is very often unique for each database
- ☐ A Java object that can be used to execute either database queries or database updates when using JDBC.
- ☐ A Java object that represents a unique connection to a database, that is often opened by using the methods of the DriverManager class, before you can read/write data from/into a database using JDBC.

No Comments

QUESTION 7

Correct Answer

Score 10

What is a JDBC Statement? > Multiple Choice

api

component

database

developer

java

jdbc

manager

software

testing

QUESTION DESCRIPTION

What is a JDBC Statement?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: api , component, database, developer, java, jdbc, manager, software, testing

CANDIDATE ANSWER**Options:** (Expected answer indicated with a tick)

- ☐ A Java object that can be created by executing a database query using JDBC, that contains records returned by the execution of that query and that can be used iterate through those records.
- ☐ A Java object that represents a unique connection to a database, that is often opened by using the methods of the DriverManager class, before you can read/write data from/into a database using JDBC.
- ☒ ☐ A Java object that can be used to execute either database queries or database updates when using JDBC.
- ☐ A software component that is required by the JDBC API to interact with the database, that is supplied by the database vendor along with the database and that is very often unique for each database

No Comments

QUESTION 8

Correct Answer

Score 10

What is a JPA Entity? > Multiple Choice

classes

database

developer

file

functional

java

jdbc

testing


QUESTION DESCRIPTION

What is a JPA Entity?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: classes, database, developer, file, functional, java, jdbc, testing

CANDIDATE ANSWER**Options:** (Expected answer indicated with a tick)

- ☐ A logical grouping of user-defined persistable classes with related settings, that defined in a .xml file, which has to be located in the META-INF directory in the classpath.
- ☐ A Java object that creates and removes persistent entity instances, finds entities by the entity's primary key and allows queries to be run on entities.
- ☐ A Java object that is constructed for a specific database, that can be used to create and manage multiple connections to a database and to simultaneously close all its connections when it is closed.
- ☒  A Java object that represents data that can be persisted to the database, where its class represents a table stored in a database and every instance of that class represents a row in the table.

No Comments

QUESTION 9

Correct Answer

Score 10

executeQuery vs executeUpdate > Multiple Choice

sql

database

developer

java

jdbc

request

testing

QUESTION DESCRIPTION

In Java, What is the difference between the executeQuery(String sql) and the executeUpdate(String sql) of Statement interface?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: sql , database, developer, java, jdbc, request, testing


CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ The executeUpdate(String sql) method is most often is used to execute DML statements (INSERT, UPDATE and DELETE) and it returns an int value representing the count of the rows affected by its execution. The executeQuery(String sql) method is used to retrieve data from the database by executing a DQL(SELECT) statement and it returns a ResultSet object containing data requested by executed sql statement.
- ☐ The executeQuery(String sql) method is most often is used to execute DML statements (INSERT, UPDATE and DELETE) and it returns an int value representing the count of the rows affected by its execution. The executeUpdate(String sql) method is used to retrieve data from the database by executing a DQL(SELECT) statement and it returns a ResultSet object containing data requested by executed sql statement.
- ☐ The executeUpdate(String sql) method is most often is used to execute DML statements (INSERT, UPDATE and DELETE) and it returns a ResultSet object containing data requested by executed sql statement. The executeQuery(String sql) method is used to retrieve data from the database by executing a DQL(SELECT) statement and it returns an int value representing the count of the rows affected by its execution.
- ☐ the executeUpdate(String sql) and executeUpdate(String sql) methods are equivalent and serve the sam function on the Statement and the PreparedStatement interfaces respectively.

No Comments

QUESTION 10

Wrong Answer

Score 0

What is a JPA EntityManagerFactory? > Multiple Choice

classesdatabasedeveloperfilefunctionaljavajdbcmangertesting

QUESTION DESCRIPTION

What is a JPA EntityManagerFactory?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: classes, database, developer, file, functional, java, jdbc, manager, testing

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐

A logical grouping of user-defined persistable classes with related settings, that defined in a .xml file, which has to be located in the META-INF directory in the classpath.

☐

A Java object that represents data that can be persisted to the database, where its class represents a table stored in a database and every instance of that class represents a row in the table.

☒


A Java object that creates and removes persistent entity instances, finds entities by the entity's primary key and allows queries to be run on entities.

☒

A Java object that is constructed for a specific database, that can be used to create and manage multiple connections to a database and to simultaneously close all its connections when it is closed.

No Comments

QUESTION 11

Correct Answer

Score 10

How can we test a method declared as protected? > Multiple Choice

contentdeveloperjdbsctesting

QUESTION DESCRIPTION

How can we test a method declared as protected?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: content, developer, jdbc, testing

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐

Methods declared as protected cannot be tested

☐

By copying the method content into the test case methods

☐


By using a Reflection of the class that contains the tested methods.

☒

By placing tests in the same package as the class that contains the tested method

No Comments

QUESTION 12

Correct Answer

Score 10

What is JUnit ? > Multiple Choice

code

developer

framework

functional

java

jdbc

language

manual

programming

testing

QUESTION DESCRIPTION

What is JUnit?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: code, developer, framework, functional, java, jdbc, language, manual, programming, testing

CANDIDATE ANSWER


Options: (Expected answer indicated with a tick)

☐

The process of checking the functionality of an application to ensure it runs as per the specified requirements

☐

Code used to ensure that another part of code works as expected

 ☒


A unit testing framework for Java programming language

☐

The processes of executing test-cases manually, without tool support, is known as manual testing

No Comments

QUESTION 13

Correct Answer

Score 10

Parameterized tests > Multiple Choice

developer

jdbc

testing

QUESTION DESCRIPTION

What are Parameterized Tests used for in JUnit?

INTERVIEWER GUIDELINES


Please read the material on the following topic to learn more about this question: developer, jdbc, testing

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

☐

To run a test once with a fixed set of arguments.

 ☒

To run a test multiple times with different arguments.

☐


To run a test once without any arguments.

☐

To run a test multiple times without any arguments.

No Comments

QUESTION 14


Wrong Answer

Score 0

hasEntry > Multiple Choice

developerjdbcsentrytesting

QUESTION DESCRIPTION


Which of the following Junit methods tests whether a given Map has a given value?

INTERVIEWER GUIDELINES

Please read the material on the following topic to learn more about this question: developer, jdbc, sentry, testing

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)



☐ hasItems()


☐ hasItem()

☐ hasEntry()

☒ hasValue()

No Comments

QUESTION 15


Correct Answer

Score 10

assertEquals() > Multiple Choice


JUnit

QUESTION DESCRIPTION

.equal() compares the *hash* by default NOT *values*....
True or False?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)



☒ True

☐ False

No Comments

QUESTION 16



Correct Answer

Score 10

What does executeUpdate return if multiple lines are affected? > Multiple Choice

QUESTION DESCRIPTION

What is the most likely output of the following code snippet?

```
public class Driver {

    public static void main(String[] args) throws Exception {
        /* You can ignore this block and assuming the connection was
        successful*/
        Connection conn = DriverManager.getConnection(
            "jdbc:mysql://localhost:3306/mydatabase",
            "root",
            "password");
        Statement stmt = conn.createStatement();
        /*-----*/

        String createTable =
            "CREATE TABLE IF NOT EXISTS EMPLOYEE(" +
            "ID INT NOT NULL," +
            "NAME VARCHAR(200)) ";
        stmt.executeUpdate(createTable);

        String insertData =
            "INSERT INTO EMPLOYEE VALUES " +
            "(0,'luci')," +
            "(1,'Stan')," +
            "(2,'Faustus')";
        System.out.println(stmt.executeUpdate(insertData));
    }
}
```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ 0
- ☐ 2
- ☒ 3
- ☐ true
- ☐ false
- ☐ java.sql.SQLException: (conn=01) Operand should contain 1 column(s)

No Comments

QUESTION 17



Correct Answer

Score 10

Does .persist() method updates or inserts > Multiple Choice

QUESTION DESCRIPTION

What is the most likely output of the following program? (excluding any [EL Info] or [EL Warning] messages), please assume all imports are correct.

Main.java

```

public class Main {
    private static EntityManagerFactory factory;
    public static void main(String[] args) {
        factory = Persistence.createEntityManagerFactory("JPA_Example");
        EntityManager em = factory.createEntityManager();
        em.getTransaction().begin();

        em.persist(new Employee("1", "Juana"));
        em.persist(new Employee("1", "Maria"));
        em.persist(new Employee("1", "Willians"));
        em.getTransaction().commit();

        Query q = em.createQuery("select e from Employee e");
        List<Employee> data = q.getResultList();
        for (Employee e : data) {
            System.out.println(e.id+": "+e.name);
        }
        em.close();
    }
}

```

Employee.java

```

@Entity
@Table(name = "Employee")
public class Employee {
    @Id
    @Column(name = "id")
    String id;
    @Column(name = "name")
    String name;

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

```

persistence.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<persistence xmlns="http://xmlns.jcp.org/xml/ns/persistence"
version="2.1">
    <persistence-unit name="JPA_Example">
        <class>jpa.Example.Employee</class>
        <properties>
            <property name="javax.persistence.jdbc.driver"
value="org.mariadb.jdbc.Driver" />
            <property name="javax.persistence.jdbc.url"
value="jdbc:mysql://localhost:3306/mydatabase" />
            <property name="javax.persistence.jdbc.user" value="root" />
            <property name="javax.persistence.jdbc.password" value="password"
/>

            <!--create the database schema automatically -->
            <property name="eclipseLink.ddl-generation" value="create-tables"
/>

            <property name="eclipseLink.ddl-generation.output-mode"
value="database" />
        </properties>
    </persistence-unit>
</persistence>

```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ 1:Willians
- ☒ ☐ java.sql.SQLIntegrityConstraintViolationException: Duplicate entry '1' for key 'PRIMARY'
- ☐ 1:Juana
- ☐ 1:Juana 1:Maria 1:Willians

No Comments

QUESTION 18



Wrong Answer

Score 0

Output of the following code snippet > Multiple Choice JDBC

QUESTION DESCRIPTION

What is the most likely output of the following code snippet?

```
public class Driver {  
  
    public static void main(String[] args) throws Exception {  
  
        /* You can ignore this block and assuming the connection was  
successful*/  
        Class.forName("org.mariadb.jdbc.Driver");  
        Connection conn = DriverManager.getConnection(  
            "jdbc:mysql://localhost:3306/",  
            "root",  
            "password");  
        /*-----*/  
  
        Statement st = conn.createStatement();  
        ResultSet rs = st.executeQuery("show databases");  
  
        //while (rs.next() == true) {  
        System.out.println(rs.getString(0));  
        //}  
    }  
}
```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ java.sql.SQLDataException: Current position is before the first row
- ☒ ☐ java.sql.SQLDataException: No such column: 0
- ☐ true
- ☐ false

No Comments

QUESTION 19



Wrong Answer

Score 0

@BeforeAll (JUnit 5) or @BeforeClass (JUnit 4) > Multiple Choice

QUESTION DESCRIPTION

What is the most likely output/result of the following JUnit tests? (please assume that all necessary imports are correct)

```
class MyClass {  
  
    public int add(int a, int b) {  
        return a + b;  
    }  
  
}
```

```
public class MyTests {  
  
    private final MyClass myClass = new MyClass();  
  
    //@BeforeAll is interchangeable with JUnit 4's @BeforeClass  
  
    @BeforeAll  
    public void beforeAll() {  
        System.out.println("beforeAll/beforeClass Finished");  
    }  
  
    @Test  
    public void additionTest() {  
        assertEquals(2, myClass.add(1, 1));  
        System.out.println("additionTest Finished");  
    }  
  
}
```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☒ ☐ org.junit.platform.commons.JUnitException: @BeforeAll method 'public void example.MyTests.beforeAll()' must be static
- ☒ beforeAll/beforeClass Finished additionTest Finished
- ☐ additionTest Finished
- ☐ beforeAll/beforeClass Finished

No Comments

QUESTION 20



Correct Answer

Score 10

assertEquals() > Multiple Choice

QUESTION DESCRIPTION

What is the most likely output/result of the following JUnit test? (please assume that all necessary imports are correct)

```
class MyClass {  
  
    public int add(int a, int b) {  
        return a + b;  
    }  
}
```

```
public class CalculatorTests {  
  
    private final MyClass calculator = new MyClass();  
  
    @Test  
    void additionTest() {  
        System.out.println("Test started");  
        assertEquals(57, calculator.add(1, 1));  
        System.out.println("Test Finished");  
    }  
}
```

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ☐ Test started Test Finished
- ☒ Test started But the test will FAIL. (With an AssertionError in the Failure Trace)
- ☐ This code would not compile

No Comments