

LAB 4: Working with Java (SOLUTIONS)

Task 1

Is the user1 object still in the Object Bench? Why or why not?

No. It was in memory and was lost when the project was closed.

How could you get the user that you created back onto the Object Bench again?

Recreate the object by calling the constructor again.

Task 2

Write down the SQL query, and describe what this query does

```
INSERT INTO Users(firstname,lastname,address,username,password,datejoined)
VALUES('Ranulph','Fiennes','1 South Pole','ran','password','27/10/2007')
```

Inserts a new row into the Users table.

Is the user1 object still in the Object Bench? Why or why not?

No. It was lost from memory when the project was closed.

Inspect the new user1 object. What are its properties?

Same as original User object.

Write down the SQL query, and describe what this query does.

```
SELECT * FROM Users WHERE username = 'ran'
```

Finds all fields of row in Users table with username = 'ran'

What role has each of the following played in this task: User, UserDAO, database

User - type for domain object, UserDAO - stores and retrieves domain objects by interacting with database, database - provides storage for objects and ability to find objects with SQL queries

Task 3

Write down the SQL query, and describe what this query does.

SELECT * FROM Users
Gets all fields from all rows of Users table

What are the properties of the object? What kind of object is it? Can you find the corresponding data in the database?

It is a User object. There is a row in the database with the same field values.

Task 4

Write down the SQL query, and describe what this query does.

SELECT * FROM Packages WHERE packageID = 2
Gets all fields of row in Packages table with packageID=2

What field in the Java object corresponds to the database field packageID? What does the field in the Java object contain?

holidayPackage. Contains a reference to a Package object.

What is the packageID of the holidayPackage object?

3

Write down the SQL queries, and describe what these queries do. Why are there two queries? What does TourDAO do with the results of the query on the Packages table?

SELECT * FROM Tours WHERE tourID = 6

SELECT * FROM Packages WHERE packageID = 3

Each one gets a whole row from a table, Tours and Packages respectively

Constructs a Package object and sets its holidayPackage field to refer to that Package object

Task 5

What is the value of sales for the package?

223

What is the value of sales now? How has the new value been calculated?

229. Old value + 2 + 4 , i.e. add number of adults + children in new booking

Write down the SQL query, and describe what this query should do.

```
INSERT INTO Bookings(tourID,username,adults ,children,status)
```

```
VALUES(6,'vdagama',2,4,'tickets not sent')
```

Inserts a new row into the Bookings table

What is the value of bookingID in the object booking1? What is the value in the database? What has happened?

The value is 0 in the object, 14 (or something similar) in the database. The database has set the value automatically as it is an AutoNumber field. There is no point in giving a new object a value as the database controls IDs here. Alternatively, we could have let the application set IDs and use an ordinary number ID field in the database.

What is the value of sales for the package with packageID = 4? Why?

223- the booking has been stored but the updated package has not.

What is the value now of sales for the package with packageID = 4?

229

Write down the SQL query (you can write just the first couple of words of the description field), and describe what you think this query does.

UPDATE Packages SET location = 'Australia', name = 'Reef and ..', adultprice = 2199.0, childprice = 1749.0, departure = 'Manchester', sales = 229 WHERE packageID = 4
Updates the specified row in the Packages table

Why is it important to use this kind of query rather than an INSERT here?

INSERT would add a new row to the table, UPDATE changes the value of field(s) in an existing row. We do not want to add a new package here.
