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Final_Questions

Question

7.0 points possible (graded, results hidden)

Look at this model folder containing these classes.

```
Class Phone{
    bool wired()
    string ageOfInnovation()
}

Class CellPhone extends Phone{
    bool wired(){
        return false;
    }

    string ageOfInnovation(){
        return "1970's"
    }

    int thickness(){
        return 0;
    }
}

Class SmartPhone extends CellPhone{
    bool wired(){
        return false;
    }

    string ageOfInnovation(){
        return "1990's"
    }

    string popularlyCalled(){
        return "mobile"
    }

    string mainFeature(){
        return "Internet Capability";
    }
}
```

What's the depth of inheritance for mobile phones?

How many methods are overridden/overloaded altogether?

What is the number of inherited methods?

Let us know the Specialization Index for to 2 decimal places?(count NMO as overload+override)

☐

After delivery your class is used as an api. A developer called SmartPhone.thickness() and it return value 0 which is not supposed to happen. Is it a error or a defect?

What is NMA of this code snippet?

☐

Lets say while building this api QA team got 25 problem while testing it and when the api is released you got 5 bug reports. Would please use a software metrics system to measure your Defect removal efficiency? (Answer to 2 decimal places)

☐

Submit

You have used 0 of 1 attempt

Multiple Choice

7.0 points possible (graded, results hidden)

Suppose you are thinking of making something like Facebook where users can only upload videos, images and recordings and add a caption to it. Other users can view those and react, comment and share. Based on that each user will have a popularity rating which will be automatically updated by the system. This app will be both mobile based and web based. Now, based on the above scenario answer the following questions - Which architectural pattern should be used for the overall development of the project?

☐ Repository

☐ Client-server

☐ Pipe filter

☐ Layered

You are planning to expand this system and add multi language features and marketing features in the long run. In that case which architectural pattern would be more suitable?

☐ Repository

☐ Client-server

☐ Pipe filter

☐ Layered

If you want to integrate the Analytics module with this, which architecture pattern should you follow?

☐ Repository

☐ Client-server

☐ Pipe filter

☐ Layered

Which part of MVC is responsible for making an application dynamic?

☐ Model

☐ View

☐ Controller

☐ None

Which layer is responsible for validation before writing on the database?

☐ Presentation layer

☐ Business layer

☐ Persistence layer

☐ Database layer

Which of the patterns increase system overhead for incompatible data structure?

☐ Repository Pattern

☐ Client server Pattern

☐ pipe filter pattern

☐ None of these pattern

Let's say you got a job in microsoft and they want to rebuild their Visual Studio C#/C++ platform. What architectural pattern do you think should be used to do it?

☐ Repository Pattern

☐ Client server Pattern

☐ pipe filter pattern

☐ None of these pattern

Submit

You have used 0 of 1 attempt

Question

5.0 points possible (graded, results hidden)

Consider the information of following activities -

Activity	Duration	Predecessors
----------	----------	--------------

Activity	Duration	Predecessors
A	10	
B	0	
C	8	A
D	1	
E	10	D
F	0	C
G	9	A, B

Using the above information, Insert the **Early Start (ES), Early Finish (EF), Late Start (LS), Late Finish (LF) and Slack Time** of the following **specified nodes**.

(Only integer value, no decimal points. For example if your ans is 7.4 or 7.6 , insert 7 only)

Activity	ES	EF	LS	LF	Slack Time
A	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
C	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
E	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
F	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
G	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Submit

You have used 0 of 1 attempt

Question

1.0 point possible (graded, results hidden)

Which of the following is an example of refactoring?

- ☐ refactoring to change external authentication protocol from LDAP to SAML
- ☐ refactoring to change API authentication from custom protocol to JWT based
- ☐ refactoring to change method name from `authed()` to `isUserAuthenticated()`

☐ refactoring to use repository pattern for ORM encapsulation☐ all of the above☐ none of the above

You have used 0 of 1 attempt

Question

1.0 point possible (graded, results hidden)

Which of the following is an example of refactoring?

☐ refactoring to block SSRF (Server-side request forgery) attacks☐ refactoring to increase SSRF (Server-side request forgery) protection☐ refactoring to block CSRF (Cross-Site Request Forgery) attacks☐ refactoring to alter CORS (Cross-Origin Resource Sharing) policy☐ all of the above☐ none of the above

You have used 0 of 1 attempt

Question

1.0 point possible (graded, results hidden)

Consider the code below and select which

```
public class FileUploader {
    protected boolean status = null;
    protected final string basePath;
    protected storageType;
    protected storagePath;

    public FileUploader (string storageType, string storagePath) {
        this.storageType = storageType;
        this.storagePath = storagePath;
        this.basePath = findBasePath();
    }

    protected findBasePath () {
        FileStorage storage = new FileStorage(this.storageType);

        return storage.getBasePath();
    }

    public function storeFile (FileReader file) {
        FileStorage storage = new FileStorage(this.storageType);
        storage.storeFile(file, this.storagePath);

        return storage.getFilePath();
    }
}
```

What should be done to remove the code smells?

☐ Give proper names to variables and methods

☐ Extract method

☐ Rename method

☐ Introduce param object

☐ Move method

☐ Move field

☐ Pull up field

You have used 0 of 1 attempt

Question

1.0 point possible (graded, results hidden)

You are reviewing a system which allows employees to view their evaluations, enter reports under specific categories and read reports under specific categories. The classes responsible for evaluations, writing reports and reading reports all have a method which checks for permissions to be able to perform the actions. All these method first check the access level of the employees (normal, department head, administrative or system admin) and then matches it to the access level of the resource. If the access level of the resource is lower or equal to the access level of the employee, then the resource is returned. In case of evaluations, the evaluation is returned, for writing a report a form is returned and for reading a report the report is returned. In this scenario what should be done?

- ☐ Leave things as it is, since changing things might lead to an error
- ☐ Create an abstract class for the permission checker and have the other classes implement them
- ☐ Create a utility class which checks for the permission and returns a boolean
- ☐ There is insufficient information to decide
- ☐ None of the above
- ☐ There would be no code smell so nothing needs to be done

You have used 0 of 1 attempt

Question

1.0 point possible (graded, results hidden)

In any kind of web application, having a database and a database connection is necessary. In modern computing, the database connection is persisted and public within the application system. What kind of design pattern must be implemented here?

☐ Observer pattern☐ Singleton pattern☐ Adapter pattern☐ Repository pattern☐ None of the above

You have used 0 of 1 attempt

Question

2.5 points possible (graded, results hidden)

Consider the following code snippet -

```
public class Test {  
    public void Run() {  
        int a, b ,c;  
        a = 2, b = 7, c = 7;  
        for(int i = 0; i < 2; i++) {  
            b = a + c;  
        }  
        for(int i = 0; i < 4; i++) {  
            print("Something else");  
            print("Hello World");  
        }  
        if(c > b) {  
            print("Hello World");  
            print(c++);  
            print(b - a);  
        }  
    }  
}
```

Now, **Number the Program Lines** and Draw the **Control Flow Graph** of the program. Then, Insert the following values-

Insert the **Number of Predicate Nodes** in the graph -

Insert the **Cyclomatic Complexity Value** of the graph -

You have used 0 of 1 attempt

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