Theory

Q.1:- What is ORS?

Ans.:- ORS:-

ORS is online web application that manage Student and Marksheet record.

Q.2:- Which Architecture is followed by ORS ?

Ans.:- MVC:-

MVC is a framework methology. It separates code implementation of an application into three component Model , View , Controller.

Q.3:- Which are Component of MVC?

Ans.:- 1. Model:-

Model contain business logic , data access logic , integration logic to perform business operation and manipulate database.

2. View:-

View component is responsible to render the graphic user interface.

3. Controller:-

Controller contain navigation logic and are responsible to perform business operation submitted by view with the help of

model.

Q.4:- What are the Types of Logic?

Ans.:- 1. Presentation Logic:-

This is set of control statement that decide look of user interface.

2. Control Logic:-

This is set of control statement that decide Navigation of user interface.

3. Business Logic:-

This is set of control statement that perform business operation.

4. Data Access Logic:-

This is set of control statement that make changes of database with the help of JDBC.

5. Integration Logic:-

This is set of control statement that integrate application with another application or server.

Q.5:- What is Design Pattern?

Ans.:- Standard problem has standard solution.

1. Singleton Design Pattern:-

The class that has one instance their lifetime is called singleton design pattern.

2. Builder Design Pattern:-

Create complex object using simple object using step by step approach.

3. Factory Design Pattern:-

The class that has ability to create object of another class is called factory class that follow factory design pattern.

4. Front Controller Design Pattern:-

Main Controller perform session checking and logging operation before calling any application. It prevent any user to access without login.

Q.6:- Which class we make singleton class ? And how to make ?

Ans.:- JDBC Datasource class.

There are four steps to make single tone class:-

1. Make a class Final so child can not be created for single class.

2. Make a default constructer Private so that no one another class can instantiate single class.

3. Declare a Static Variable of self type in single class static variable has only one cory in their lifetime.

4. Make a get Instance() Static method in singleton class that will return instance of same single class.

Q.7:- what is pom.xml?

Ans.:- It is a XML file that contain information about the project and contain configuration detail used by maven to build project.

Q.8:- what is web.xml?

Ans.:- It is a XML file that contain application configuration and it is also called Deployment Descriptor.

Q.9:- What is utility classes?

Ans.:- Utility classes is used to reusability and reusable services.

Q.10:- What are the utility classes you have in your project?

Ans.:- Nine Utility classes we have used in our project:-

1. DataUtility.java:-

   Data Utility class is used to format data form one format to another.

2. DataValidator.java:-

   Data Validator class is used to validate input data.

3. HTMLUtility.java:-

HTML Utility class is used to produce html content like DropDownList etc.

4. ServletUtility.java:-

This class provides utility operation for servlet container like forward, redirect, manage success and error

message, handle generic exception, manage default bean and list, manage pagination parameters.

5. EmailMessage.java:-

Email Message contain email message.

6. EmailBuilder.java:-

EmailBuilder class that build Application Email Messages.

Three method

I. getUserRegistrationMessage()

II. getForgetPasswordMessage()

III. getChengePassWordMessage()

7. EmailUtility.java:-

Email Utility provide Email Services.

I. sendMail()

8. PropertyReader.java:-

Read the property values from application properties file using Resource Bundle.

9. JDBCDataSource.java:-

It is a DATA CONNECTION POOL.

Q.11:- DCP (Data Connection Pool)

Ans.:- It Provide connection reusability and limit of maximum connection.

1. Add c3p0 (0.9.1.2) dependency

2. JDBC Datasource class ko singleton bnai ComboPoolDataSource ka object banaya (cpds)

3. cpds = null kiya

4. cpds me sare parameter ko set kiya

5. And connection provide kiya (return getInstance().cpds.getConnection();)

System.properties pr parameter liye hai:-

url = jdbc:mysql://localhost:3306/project4

driver = com.mysql.cj.jdbc.Driver

username = root

password = root

acquiereIncrement = 10

initialPoolSize = 10

maxPoolSize = 100

minPoolSize = 10

timeout = 10

Q.12:- What is Advantage DCP?

Ans.:- I. High performance.

II. It controls number of connection create.

III. It allow application to handle more concurrent user.

Q.13:- What is Javadoc?

Ans.:- Javadoc is a documentation which help other developer to understand the project.

Q.14:- What is input validation and business validation?

Ans.:- Input Validation:-

Input Validation checks input data entered by user.

Business Validation:-

Checks the business condition that may need database communication.

Q.15:- What is Non Business Primary Key?

Ans.:- It dose not contain business information and it related with database.

Q.16:- What is Business Primary Key?

Ans.:- It contain business information and it is related with database communication.

Q.17:- What is customize exception?

Ans.:- Custom exception is created by developer. We have created own exception classes by extends Exception class. We have Create customize

exception like ApplicationException, DuplicatedRecordeException, RecordeNotFoundException, DataBaseException.

Q.18:- What is transaction handling?

Ans.:- Transaction is a atomic unit to be commit or rolled-back in a single attempt.

Q.19:- What is servlet lifecycle?

Ans.:- I. init() II. service() III. destroy()

Q.20:- Write the method signature of all method of one module ?(UserModel)

Ans.:- 1. public void delete(UserBean bean){

}

2. public void update(UserBean bean){

}

3. public int nextPK(){

return pk+1;

}

4. public long add(UserBean bean){

return pk;

}

5. public long registrUser(UserBean bean){

return pk;

}

6. public boolean changePassword(long id, String oldPassword, String newPassword){

return flag;

}

7. public boolean forgetPassword(UserBean bean){

return flag;

}

```
8. public List search(UserBean bean){
        return search(bean,0,0);
  }

9. public List search(UserBean bean, int pageNo, int pageSize){
        return list;
  }

10. public List list(){
        return (0,0);
  }

11. public List list(int pageNo, int pageSize){
        return list;
}

12. public UserBean findByLogin(String login){
        return bean;
  }

13. public UserBean findByPK(long pk){
        return bean;
  }

14. public UserBean authenticate(String login, String password){
        return bean;
  }

15. public List getRole(UserBean bean)
        return bean;
  }
```

Q.21:- What is JSP lifecycle?

Ans.:- I. jspinit() II. _jspservice() III. jspdestroy()

Q.22:- What is BaseBean?

Ans.:- BaseBean is parent class of all beans and it contain generic attribute.

Q.23:- What is BaseCtl?

Ans.:- BaseCtl is parent controller of all controller and it contain generic work flow, generic operation, generic constant.

Q.24:- Why we create custom exception?

Ans.:- To generate self Exception. It can be understand by developer.

Q.25:- What is Maven?

Ans.:- Maven is powerful build automation tool.

Q.26:- Types of Validation in the project?

Ans.:- There are three types of Validation in the Project:-

1. Sever Side Validation
    - I. Input Validation
        - i. Declarative Validation
        - ii. Programative Validation
    - II. Business Validation (Check from Database)
2. Client Side Validation
    - Use Java Script

Q.27:- How you are performing Business Validation?

Ans.:- We have propagate exception on model and we have checked and set on controller and get on view.

Q.28:- How many types of servlet?

Ans.:- There are three types of servlet:-

I. Servlet Interface

II. GenericServlet Class

III. HttpServlet Class

Q.29:- What is Abstract Factory?

Ans.:- It is pattern work around a super factory which create other factories.

Q.30:- How your are sending email?

Ans.:- By using some custom classes like:-

I. EmailMessage

II. EmailBuilde

III. EmailUtility

Q.31:- What are the classes you have used to sending emails?

Ans.:- We have used six classes for email those are used in Email Utility Class which are following:-

I. Message

II. MimeMessage

III. PassportAuthentication

IV. Transport

V. Session

VI. InternetAddress

Q.32:- What is Front Controller?

Ans.:- Main controller performs session checking and logging operation before calling any application controller. It prevent any user to access

application without login.

Q.33:- Why override service method?

Ans.:- We create custom ctl in which we Override service method to provide generic operation flow.

Q.34:- How many Dependency in pom.xml?

Ans.:- There are six dependency in pom.xml:-

I. junit (3.8.1)

II. MySQL (8.0.29)

III. log4j (1.2.17)

IV. c3p0 (0.9.1.2)

V. javax.mail (1.4.7)

VI. Javax.servlet (3.0.1)

Q.35:- Difference between JBoss and Tomcat server?

Ans.:- I. JBoss is a Application server where as tomcat is a Web server.

II. JBoss follow distributes transections like EJB where as tomcat follows jsp and servlet.

III. JBoss is heavily weight as compare to tomcat.

IV. JBoss work as slow as compare to tomcat.

Q.36:- Difference between static polymorphism and dynamic polymorphism?

Ans.:- Static Polymorphism is done by overloading and Dynamic Polymorphism is done method overriding.

Q.37:- Difference between URL, URI?

Ans.:- I. URL has a particular resource in request where as URI check only resource is exist or not.

II. URL brings particular resource where as URI return true and false.

Q.38:- Difference between string buffer and string builder?

Ans.:- StringBuffer is synchronized and thread safe and used in multi user system.

StringBuilder is asynchronized and not thread safe and used in single user system.

Q.39:- Tools you used in your application?

Ans.:- I. Eclipse mars 1

II. SQLYog 9.0

III. ArgoUML

IV. ER Win

Q.40:- What is Log4j?

Ans.:- Log4j stand for logging message for java. It is an open source framework to log message of your program final destination like Console,

File, Network, Database.

Q.41:- How many component of Log4j?

Ans.:- I. Logger II. Layout III. Appender

I. Logger:-

It is responsible for capturing logging information.

II. Layout:-

It is responsible for formatting information in different style.

III. Appender:-

It is responsible for publishing logging information to various preferred destination.

Q.42:- How many Environment of Log4j?

Ans.:- I. Development (Debug Level) II. Quality Assurance (Info Level, Error Level) III. Production Environment (Warn Level)

Q.43:- How many Level Of Log4j?

Ans.:- I. Debug Level :- at development phase.

II. Info Level :- at QA phase.

III. Warn Level :- at production Environment.

IV. Error Level :- During Application Execution.

V. Fatal Level :- Any Situation that stop execution of an application.

Q.44:- How many Layout of log4j?

Ans.:- I. Date Layout

II. HTML Layout

III. XML Layout

IV. Simple Layout

V. Pattern Layout

Q.45:- How many Log4j Appender?

Ans.:- I. Console Appender

II. File Appender

III. Rollingfile Appender

IV. Daily Rollingfile Appender

V. External Rollingfile Appender

VI. JDBC Appender

VII. SMTP Appeder

VIII. Socket Appender

IX. Telnet Appender

X. Null Appender

Q.46:- How many Appender are used in Log4j?

Ans.:- I. Console Appender II. Rollingfile Appender

I. Console Appender:-

Console Apender is responsible to configure to publishing logging message to the console.

II. Rollingfile Appender:-

Rollingfile Appender is responsible to create new log file every day or create a file when given file size

is finished.

Q.47:- Which Layout used in Log4j?

Ans.:- Pattern Layout.

Q.48:- How to config Log4j?

Ans.:- I. Add dependency = Log4j(1.2.17)

II. Make Log4j properties file.

III. Make object of Logger in all controller & model

private static Logger log = Logger.getLogger(UserCtl.class);

Q.49:- How to enable Log4j?

Ans.:- Logger.rootLogger = DEBUG, file, stdout

Q.50:- How to disable Log4j?

Ans.:- Logger.rootLogger = OFF, file, stdout

Q.51:- Which Layout is followed by Log4j?

Ans.:- I. For File:-

Log4j.appender.file.Layout = org.apache.log4j.patternLayout

II. For Console:-

Log4j.appender.stdout.layout = org.apache.log4j.patternLayout

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Q.52:- MVC Guideline?

Ans.:- I. One screen will have one view.

II. One view will have one controller.

III. User cannot directly access a view. View is always accessed by a user via controller.

IV. View always submits request to its own controller.

V. When an application needs to navigate to next view then request is forwarded to controller of next view.

Q.53:- What are the differences between Statement and PreparedStatement?

Ans.:- PrepaedStatemen preserved passed queries and reused the same queries with deference parameters where as Statement queries are passed

every database call.

Q.54:- Difference between DoGet & DoPost ?

Ans.:- DoGet

I. Performed view logic.

II. Can be cached.

III. Can be bookmarked.

IV. Can send only text and number.

V. Parameter are saved in browser history because they are part of URL.

DoPost

I. Performed submit logic.

II. Cannot be cached.

III. Cannot be bookmarked.

IV. Can send binary data.

V. Parameter are not saved in browser history.

Q.54:- View kisko dekh kar banaya hai?

Ans.:- Wireframe diagram ko dekh kar.

Q.55:- Controller kisko dekh kar banaya hai?

Ans.:- Controller view ko dekh kar banaya hai.

Q.56:- Model kisko dekh kar banaya hai?

Ans.:- Model Databse ko dekh kar banaya hai.

Q.57:- Database kisko dekh kar banaya hai?

Ans.:- Database ER diagram ko dekh kar banaya hai.

Q.58:- Bean kisko dekh kar banaya hai?

Ans.:- Bean UML diagram ko dekh kar banaya hai.

Q.59:- How to apply Javadoc ?

Ans.:- 1. Alt + Shift + j

2. Project menu Generate Javadoc

3. Config me javadoc.exe path

4. Select Destination

5. Visibility Private (we can access private attribute of class)

Q.60:- How to mapping of Javadoc ?

Ans.:- /doc/index.html.

Q.61:- What is filter?

Ans.:- Filter perform pre-processing and post-processing operation on request and response of client.

Q.62:- Full Form?

Ans.:- I. URL :- Unified Resource Locater.

II. URI :- Unified Resource Identified.

III. XML :- Extensible Markup Language.

IV. SMTP :- Simple Mail Transport Protocol.

V. POP :- Post Office Protocol.

VI. IMAP :- Internet Mail Access Protocol.

VII. HTTP :- Hyper Text Transfer Protocol.

VIII..WAR :- Web Archive.

IX. DDL :- Data Definition Language.

X. DML :- Data Manipulation Language.

XI. DCL :- Data Control Language.

Q.63:- What is DML,DDL,DCL?

Ans.:- DML(Data Manupulation Language):-

It is used to perform CRUD operation.

DDL(Data Defination Language):-

It is used to preform create table, alter table, drop table.

DCL(Data Control Language):-

It is user to preform Commit and rollback.

Jenkins is an open-source automation container used for CI (continuous integration) and CD (continuous delivery).

it transfer control to the next filter in chain.