

CS506 WEB DESIGN AND DEVELOPMENT
QUIZ 1 SPRING 2021
MCS FAMILY GROUP TEAM
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1. Which of the following interface needs to implement while creating threads?

- WindowListener
- **Runnable**
- ActionListener
- Serializable

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Following are the steps to create threads by using *Interface*:

- Create a class where you want to put some code that can run in parallel with some other code and let that class implement the *Runnable* interface.
- *Runnable* interface has the *run()* method therefore provide the implementation for the *run()* method and put your code that you want to run in parallel here.
- Instantiate *Thread* class object by passing *Runnable* object in constructor
- Start thread by calling *start()* method

2. Choose correct line of code to inherit a worker class from Thread class in java.

- public class Worker new Thread ()
- public class Worker inherit Thread ()
- public class Worker implement Thread ()
- **public class Worker extends Thread ()**

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- **Step 1 - Inherit from Thread Class**
class Worker extends Thread

3. In GET HTTP Request type, attribute-value pair is attached after _____ with requested URL.

- #
- @
- **?**
- "

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GET

- o **Attribute-Value pair is attached with requested URL after "?".**

4. Choose correct integer value for predefined Thread Priority "Thread.NORM_PRIORITY" in java.

- 7
- 10
- 1
- **5**

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Thread.NORM_PRIORITY (typically 5)

5. "Ready State" means a thread is in _____.

- new state
- waiting state
- **ready queue**
- dead state

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Ready state

- Thread's start() method invoked
- Thread can now execute
- Put it into the Ready Queue of the scheduler

6. HTTP response code 401 indicates that _____.

- requested resource is available
- **request requires HTTP authentication**
- error by server
- requested resource is not available

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401: Indicates that the request requires HTTP authentication.

7. Choose correct line of code to start a thread 't' in Java.

- **t.start()**
- t-start()
- t=start()
- t->start()

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Step 4 - Start thread by calling start() method

t.start();

8. At servlet service stage, webserver invokes _____ method.

- servletServices()
- **services()**
- serviceSvlt()
- svltServices()

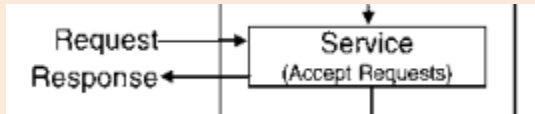
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Servlet services zero or more requests by calling service() method that may decide to call further methods depending upon the Servlet type (Generic or HTTP

9. Request and response of servlet are handled at _____ stage.

- destroy
- initialize
- failure
- **service**

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10. Which of the following is not the stage of servlet lifecycle?

- **Wait**
- Service
- Destroy
- Initialize

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A servlet passes through the following stages in its life.

- Initialize
- Service
- Destroy

11. Which of the following problem occurs with lower priority threads?

- Process death
- **Starvation**
- Race condition
- Average waiting time

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Second, starvation can occur for lower-priority threads if the higher-priority threads

12. Thread sleep() method causes the currently executing thread to wait for the time in _____.

- Nanoseconds
- **Milliseconds**
- Microseconds
- Zeptoseconds

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sleep(int time) method

Causes the currently executing thread to wait for the time (milliseconds) specified

13. In the context of Java Thread. Sleep() method throws _____ exception.

- Index Out of bound
- **InterruptedException**
- File not found
- Input Output

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Note that sleep() method can throw InterruptedException. So, you need try-catch block

14. Inside <servlet-mapping> tag. first write _____ of the servlet using _____ tag in web.xml.

- url, <servlet-url>
- **name, <servlet-name>**
- url, <url-pattern>
- class, <servlet-class>

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Inside <servlet-mapping> tag, first you will write the name of the servlet for which you want to specify the URL mapping using <servlet-name> tag and then you will define the URL

15. Which of the following method needs to override while handling threads in java?

- start()
- runnable()
- init()
- **run()**

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1. Creating Threads in Java

Override the run() method in the subclass

16. Which of the following variable value will not be set during the installation and configuration of Apache Tomcat Server?

- CLASSPATH
- CATALINA_HOME
- **JDK_HOME**
- JAVA_HOME

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To work with servlets and JSP technologies, you first need to set up the environment. Tomcat installation can be performed in two different ways (a) using .zip file (b) using .exe file. This setup process is broken down into the following steps:

1. Download the Apache Tomcat Server
2. Install Tomcat
3. Set the JAVA_HOME variable
4. Set the CATALINA_HOME variable
5. Set the CLASSPATH variable
6. Test the Server

17. HTTP response code 100s indicates _____.

- to continue without request
- do not continue with any request
- to continue with complete request
- **to continue with partial request**

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100: Continue with partial request.

18. Which of the following is NOT web technology of Java?

- **ASP**

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- JSF
- JSP
- Servlet

There are several Java technologies available for web application development which includes Java Servlets, JavaServer Pages, and JavaServer Faces etc.

19. When a thread is in “new state” during its life cycle, it is _____.

- **just created** **page 228**
- in ready queue
- ready to run
- being assigned a preprocessor to run

New state

- When a thread is just created

20. HTTP response code 403 indicates that _____.

- Access to the requested resource was successful.
- Resource can be accessed after one hour.
- **Access to the requested resource has been denied.**
- Resource has been destroyed.

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403: Indicates that access to the requested resource has been denied.

21. Web .xml is a _____

- **servlet file** **pg#265+Google**
- configuration file
- jar file
- java file

Note: It is important to note here that you can specify any name for a servlet inside `<servlet-name>` tag. This name is used for referring to servlet in later part of `web.xml`. You can think of it as your id assigned to you by your university while you have actually different name (like `<servlet-class>`).

This file is named `web.xml`, and resides in the app's WAR under the `WEB-INF/` directory. `web.xml` is part of the servlet standard for web applications.

22. In the context of servlet mapping in `web.xml`, URL is provided in _____ tag.

- `<url-source>`
- `<url-destination>`
- `<url-address>`
- **`<url-pattern>` pg#265**

Inside `<servlet-mapping>` tag, first you will write the name of the servlet for which you want to specify the URL mapping using `<servlet-name>` tag and then you will define the URL pattern using `<url-pattern>` tag. Notice the forward slash (/) is used before specifying the url.

23. The _____ method is used, when one thread wants to wait for another thread's run method to complete its execution:

- `yield()`
- `sleep()`
- **`join()`** pg#229
- `wait()`

Thread's Joining

- Used when a thread wants to wait for another thread to complete its `run()` method
- For example, if thread2 sent the `thread2.join()` message, it causes the currently executing thread to block efficiently until thread2 finishes its `run()` method

24. Which of the following range of response code signify error by server?

- 300-399
- 400-499
- 200-299
- **500-599** pg#235

500-599

- ☐ Codes in the 500s signify an error by the server.

25. Choose the correct statement by which thread 't' causes currently executing thread to block until thread 't' finishes its `run()` method:

- `t.sleep()`
- `t.start()`
- **`t.join()`** pg#229
- `t.wait()`

Thread's Joining

- Used when a thread wants to wait for another thread to complete its `run()` method
- For example, if thread2 sent the `thread2.join()` message, it causes the currently executing thread to block efficiently until thread2 finishes its `run()` method

26. In _____ state, thread is assigned a processor to run:

- ready

- new
- **running pg#228**
- dead

Running state

Thread is assigned a processor and now is running

27. If "MyServlet" is placed in "myapp" folder, then you can access "MyServlet" by writing _____:

- <http://localhost8080/myapp/MyServlet>
- <http://localhost8080/myapp/servlets/MyServlet>
- <http://localhost8080/webapps/myapp/servlets/MyServlet>
- <http://localhost8080/webapps/myapp/MyServlet> **pg#265**

Now you can access HelloWorldServlet (if it is placed in myapp application) by giving the following url in the browser

<http://localhost:8080/myapp/myfirstservlet>

28. Which of the following method allows any other thread of same priority to execute?

- **yield() pg#225**
- sleep()
- wait()
- notify()

2yield() method

- Allows any other threads of the same priority to execute (moves itself to the end of the priority queue)

29. In web.xml, root to _____ represents web application:

- webapp
- **<web-app> pg#264**
- <web app>
- <web.app>

Inside web.xml, the **<web-app>** is the root tag representing the web application.

30. HTTP response code 404 indicates that _____:

- **requested resource is not available pg#235**

- request requires HTTP authentication
- requested resource is available
- error by server

404: Indicates that the requested resource is not available.

31. In the context of HTTP Response Code, the values in the 200s signify that _____:

- **request was successful pg#234**
- request was not successful
- error by server
- error by client

☐ **Values in the 200s signify that the request was successful.**

32. Servlet mapping is defined in _____:

- JSP
- html
- servlet
- **web.xml page 265**

Inside **<servlet-mapping>** tag, first you will write the name of the servlet for which you want to specify the URL mapping using **<servlet-name>** tag and then you will define the URL pattern using **<url-pattern>**tag. Notice the forward slash (/) is used before specifying the url. You can specify any name of URL. The forward slash indicates the root of your application.

```
<url-pattern> /myfirstservlet </url-pattern>
```

Now you can access HelloWorldServlet(if it is placed in myapp application) by giving the following url in the browser

```
http://localhost:8080/myapp/myfirstservlet
```

Note: Save this web.xml file by placing double quotes("web.xml") around it as you did to save .java files.

33. Which of the following is not a servlet related package?

- javax.servlet.Servlet
- javax.servlet
- javax.servlet.http
- **javax.servlet.Svit pg#260**

Servlet related classes are included in two main packages javax.servlet and javax.servlet.http.

Every servlet must implement the javax.servlet.Servlet interface, it

34. The newly created thread can be moved to "Ready State" by calling _____ method:

- sleep()
- **start()** **page 228**
- wait()
- yield()

Ready state

- Thread's start() method invoked
- Thread can now execute
- Put it into the Ready Queue of the scheduler

35. Which of the following method is called only once during life cycle of Servlet?

- **init()** **page 184**
- service()
- destroy()
- start()

init()

Is called only once.

36. At servlet initialization stage, webserver invokes _____ method.

- ServletInit()
- **init()** **page 267**
- initServlet()
- initialize()

28.1.1 Initialize

When the servlet is first created, it is in the initialization stage. The webserver invokes the init() method of the servlet in this stage. It should be noted here that init() is only called once

37. A servlet _____ during its initialize stage.

- unloads resource/s
- accept request/s
- **Loads resources/s** **page 267**
- forwards request/s

28.1.1 Initialize

When the servlet is first created, it is in the initialization stage. The webserver invokes the init() method of the servlet in this stage. It should be noted here that init() is only called once and is not called for each request. Since there is no constructor available in Servlet so this urges its use for one time initialization (loading of resources, setting of parameters etc) just as the

38. Which of the following is NOT a part of HTTP request?

- Header fields

- URI
- Request method
- **Status code** **page 232**

Parts of an HTTP request

- **Request Method:** It tells the server the type of action that a client wants to perform
- **URI:** Uniform Resource Indicator specifies the address of required document or resource
- **Header Fields:** Optional headers can be used by client to tell server extra information about request e.g. client software and content type that it understands.

39. Which of the following is NOT true about HTTP?

- HTTP is a request response communication model
- HTTP has no built-in state management between successive requests
- **HTTP maintains user session between successive requests** **231+Google**
- HTTP is a stateless protocol

remote user connected to web server through HTTP protocol. HTTP protocol follows *stateless Request-Response communication model*. Client (usually a web-browser) sends a request

Does HTTP maintain session?

In the case of transport protocols that do not implement a formal session layer (e.g., UDP) or where sessions at the application layer are generally very short-lived (e.g., HTTP), **sessions are maintained by a higher level program** using a method defined in the data being exchanged.

40. If attribute is "name" and value is "ahmad" then the GET request will be_____.

- <http://www.gmail.com/register?name=ahmad> **page 262,263**
- <http://www.gmail.com/register#name=ahmad>
- <http://www.gmail.com/register&name=ahmad>
- <http://www.gmail.com/register?name.ahmad>

GET

- o Attribute-Value pair is attached with requested URL after '?'.
o

For example if attribute is 'name' and value is 'ali' then the request will be
<http://www.gmail.com/register?name=ali>

41. Which of the following approach can use to create thread in java?

- Abstraction
- **Inheritance** **page 212**
- Composition
- Polymorphism

There are two approaches to create threads in Java.

- Using Interface
- Using Inheritance

42. To compile a servlet (e.g. MyServlet.java) _____ command is used in command prompt.

- java-c
- java c
- java
- **javac**

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On UNIX or windows, the java compiler is called "javac". To compile all the .java files in a directory use "javac *.java".

the servlet classes to the compiler. The *server* already knows about the servlet classes, but the *compiler* (i.e., **javac**) you use for compiling source files of servlet does not. So if you don't

43. JAVA_HOME indicates the _____ of JDK.

- Bin folder
- Webapps folder
- Web page
- **Root directory** pg#248

JAVA_HOME indicates the root directory of your jdk.

44. Servlets are java's technology answer to _____ programming.

- **CGI** pg#245
- Perl
- C++
- C

Servlets are java technology's answer to CGI programming.

45. In the context of HTTP Response Code, the values in the 400s signify that _____:

- **Error by client** pg#235
- Resource is available
- Resource is not available
- Error by server

Values in the 400s indicate an error by the client.

46. CGI(Common Gateway Interface) was widely used for generating_____.

- **Dynamic web content** pg#245

- Mobile application
- Desktop application
- Static web content

Servlets are java technology's answer to CGI programming. CGI was widely used for generating dynamic content before Servlets arrived. They were programs written mostly in C, C++ that run on

47. Web.xml is a _____

- **Configuration file**
- Jar file
- Java file
- Servlet file

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Configuration files such as web.xml will go in WEB-INF folder (C:\jakarta-tomcat-5.5.9\webapps\myapp\WEB-INF)

48. The webapps folder is the _____ Tomcat directory that contains all the web applications deployed on the server.

- Least-level
- **Top-level pg#258**
- Mid-level
- Bottom-level

The *webapps* folder is the top-level Tomcat directory that contains all the web applications deployed on the server. Each application is deployed in a separate folder often

49. _____ is NOT the type of HTTP request.

- Delete
- **Update**
- Post
- Get

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- **GET:** Requests a page from the server. This is the normal request used when browsing web pages.
- **POST:** This request is used to pass information to the server. Its most common use is with HTML forms.
- **PUT:** Used to put a new web page on a server.
- **DELETE:** Used to delete a web page from the server.
- **OPTIONS:** Intended for use with the web server, listing the supported options.
- **TRACE:** Used to trace servers

50. Which of the following range of response codes indicates that the request was successful?

- 300-399
- 100-199
- 400-499
- **200-299** **pg#234**

200-299

- ☐ Values in the 200s signify that the request was successful.
- ☐ 200: Means everything is fine.

51. Real world business objects are represented in_____.

- **Data layer** **pg#243**
- Presentation
- Business layer
- Application layer

Data Layer

• This layer consists of objects that represent real-world business objects such as an Order,

52. Choose correct integer value for predefined Thread Priority "Thread.MAX_PRIORITY" in java.

- 1
- 5
- **10** **pg#216**
- 7

A Thread's priority can be any integer between 1 and 10. We can also use the following predefined constants to assign priorities.

Thread.MAX_PRIORITY (typically 10)