Course #1: Operating system and System Programming

1. What are the types of distributed operating systems?

A. Zone based Operating system

B. Level based Operating system

C.Network operating system

D. All

2.Which of the following system software resides in main memory?

A. Text editor

C. Loader

B. Linker

D. Compiler

Producer consumer problem can be solved using?

A. Event counters

B. Semaphore

C.Monitors

D.all

What is bootstrapping?

A. A language interpret other language pr

B. A language compiling other langu

C. A language compile itself

D. All of the above

C. Network Operating system

D. All of the mentioned

5. Which one of the following program is not belong to utility program

A. Spooler

C. Debugger

B. Editor

D. All of the above

C. Monitors

D. All of the above

6. Which command is used to bring the background process to foreground?

A. bg

C. background

D. foreground

B. fg

7. Which file system can be used to change certain kernel parameters at runtime using

sysctl command?

9. Process Id(PId) of init process is:

A. 0

A. Ext3

B. Sysfs

C. Ext4

D. Procfs

8. The permission -rwxr-r- represented in octal expression will be:

A. 777

B. 666

C.744

D.711

Process Id(PId) of init process function?

A.0

B.1

C.3232

D.None

C. 744

D. 711

C. 3232

B. 1

D. None of the above

10. Which one of the following system call is used to return parent process ID with child process function

B. getpid()

A. waitpid

C. getppid()

D. parenteid()

C. Mobile interpretive compiler (MIC)

2. Which of the following converts Java byte code into Dalvik byte code?

A. Dalvik converter

D. None of the above

2.

B. Dex compiler

3. How can we stop the services in android?

A. By using the stopSelf() and stopService() method

B. By using the finish() method

C. By using system.exit() method

D. None of the above

How can we kill an activity in android?

4.

9.

6.

A. Using finish() method

B. Using finishActivity (int requestCode)

C. Both (a) and (b)

D. Neither (a) nor (b)

5. ADB stands for -

A. Android debug bridge

B. Android delete bridge

Which of the following is not an activity lifecycle callback method?

C. onStart() method

D. onBackPressed() method

A. onClick() method

B. onCreate() method

7. Which of the following is contained in the src folder?

LA

A. context

B. object

Which of the following is the parent class

A. XML

B. Java source code

8. Which of the following is the parent class of Activity?

A. context

B. object

10. In which of the following tabs an error is shown?

A. CPU

B. Memory

C. ADB Logs

D. logcat

Course #3: Software project Management

1. \_

product in a systematic and controlled manner.

1. Risk Exposure (RE) =

A. Probability of Risk \* size of risk

B. Probability of Loss \*size of loss

C. Probability of Risk / size of risk

D. Probability of Loss / size of loss

C. Manifest

D. None of the above

service?

C. contextThemeWrapper

D. None of the above

2. ----is a process to handle continuous changes of baseline product in a systematic and controlled manner

A. Risk Management

B. Software Quality Management

C. Software Configuration Management

D. Software Process Management

C. contextThemeWrapper

D. contextWrapper

C. ADB Logs

D. Logcat

D. Software Process Management

3. A -------is a matrix that maps the work of the project as described the in WBS, to the people responsible for performing the work, as described in the OBS.

A. Responsibility assessment matrix

B. Responsibility Index matrix

C.Responsibility assignment matrix

D. Responsibility addition matrix

4. What kind of estimation approach is Parkinson's Law

A. Expert Judgment

B. Estimation by Analogy

C.Adhoc Approach

D. Empirical Approach

5. Payback Period =

A. Annual Net Cash Flow /Initial cash flow

B. Initial Investment / Annual investment

C. Annual Investment /Initial No.

6. Delphi approach is also called.

A. Consultative

B. Non-Consultative

C. Fully Consultative

D. Partially Consultative

7. Expand SMART.

A. Specific, Measurable, Activity, Realistic, Time-framed

B. Specific, Measurable, Activity, Resource, Time-framed

C. Specific, Measurable, Assignable, Resource, Time-framed

D. Specific, Measurable, Assignable, Realistic, Time-framed

D. Initial Net Cash Flow / Annual Inve ment

B. Bottom-up Integration Structure

C. Work Integration Structure

D. Work Breakdown Structure

9. Expand DSDM

ment

low

"low

is a hierarchical and incremental decomposition of the project into

phases, Deliverables and work packages

A. Task Integration Structure

group consensus technique.

A. Development Systems Dynamic Method

B. Database Systems Development Method

C. Dynamic Systems Development Method

D. Development Systems Database Method

A. Nonrepudiation

B. Confidentiality

C. Adhoc Approach

D. Empirical Model

A. Program portfolio

B. Program Management

Course #4: Software and Information Security

C. Fully Consultative

D. Partially Consultative

involves organizing and managing projects and programs as a

portfolio of investments that contributes to the entire enterprise's success.

C. Project Management

D. Project portfolio

1. The IT department is reporting that a company web server is receiving an abnormally

high number of web page requests from different locations simultaneously

A. Nonrepudiation

B. Confidentiality

C. Availability

D. Integrity

What type of threat/attack is this?

A. Eavesdropping

B. DOS

C. Masquerading

3. Liya is applying access controls to ensure that employees in her company are not able to

read files that are not directly related to their job functions. What goal of information

security is Liya enforcing?

C. Availability

A. Nonrepudiation

B. Confidentiality

D. Integrity

4. A type of virus that can take different form and encrypting itself and using a different

key for each copy of the virus is known as

A. Public key virus

B. Polymorphic virus

C. Metamorphic virus

D. Macro virus

E. None

5. The property that certain records or transactions not to be attributable to any individual

provides illegal access

A. Anonymity

B. Authenticity

C. Assurance

D. Repudiation

D. Cryptography

E. None

6. The term "backdoor" is used to represent an entry point into a program that

A. True

B. False

7. A firewall passes or blocks traffic based upon

A. IP address

B. Port number

C. All of the above

D. None of the above

8. Which security measure allows to verify whether you have a permission to access the

specific resources?

D. Accountability

A. Authentication

B. Authorization

C. Nonrepudiation

9. A process or a device that is designed to detect, prevent, or recover from a security

attack.

A. Security Attack

B. Security Mechanisms

C. Security Service

D. Threat

6.

7.

8.......is a technology that creates and handles dynamic contents

C. GCI

D. GIC

A. GIS

B. CGI

What is one benefit that OAuth provides over an API key approach?

A.

A token is encrypted

B.

A token is encoded

C. A token is scoped to the use case

D. A token can be shared between systems

9. Which response header tells the client and intermediaries that the response is not to be cach

}

o boal

anywhere?

What component hides the distinction or boundaries between various microservices from

client application?

A. API logging

B. API gateway

C. A layered system

D. API proxу

A. Cache-Control: none

A. Stateless

nohago ertB. Client-Server

B. Expires: -1

1. Which respose header tells the cleint and intermediaries that the response is not cached client application

A Cache-control:none

B. Expires:-1

C. Cache-control:no-cache

D. Cache-control:no-store

10. Which REST constraint specifies that there should be no shared context?

A. Stateless

B.client-server

C.Uniform interface

D.cachable

in

ont

PART V: Object Oriented Programming

1. Which one of the following is it NOT possible to do in Java?

A. implement more than one interface;

B. execute more than one thread at a time;

C. create arrays with more than two dimensions;

D. create and manipulate pointers;

E. none of the above.

System.out.print("Hello ");

System.out.print("world")

EasyIn.pause();

that d

which one

get to 3 de C. Cache-Control: no-cache

D. Cache-Control: no-store

C. Uniform Interface

D. Cacheable

world

E. none of the above.

RE

ovoda art to

A. this program contains more than one syntax error;

B. this program contains one and only one syntax error;

C. this program compiles successfully and produces the following output:

Hello world

D. this program compiles successfully and produces the following output:

Hello

A

2. Consider the following Java program and then choose the correct statement from the list that follows:

public class Hello

{

public Static void main(String[] args)

{

while (

System.o

day=

B.

{

while (d

Easy

Sy

va?

Assume that the user of a program is asked to enter a day number (1-7) into an integer variable called

day. Which one of the following while loops can then be used to validate the day entered:

A.

B.

C.

D.

E.

while (day >= 1 || day <= 7)

{

}

System.out.print("ERROR 1 - 7 only, enter again:");

day EasyIn.getInt();

while (day>= 1 && day <= 7)

{

}

System.out.print("ERROR I - 7 only, enter again: ");

day = EasyIn.getInt();

while (day <= 1 || day >= 7)

{

System.out.print("ERROR 1-7 only, enter again: ");

day = EasyIn.getInt();

}

while (day> 1 && day < 7)

{

System.out.print("ERROR 1-7 only, enter again: ");

day EasyIn.getInt();

}

while (day < 1 || day> 7)

{

System.out.print("ERROR 1-7 only, enter again: ");

day = EasyIn.getInt();

4. You are told that a class called Gas has a public static method, setPressure, which requires a

parameter of type int. A variable temp, of type int, has been declared and initialized. Which of the

following statements, in a program that uses the Gas class, would result in a compiler error?

A. Gas.setPressure(10.58);

D. Gas.setPressure(-1);

B. Gas.setPressure(temp + 10);

E. Gas.setPressure(0);

C. Gas.setPressure (temp);

ba

5. Consider the following explicit creation of an array and then choose the correct statement

from the list that follows

int[] someArray = {2, 13, 9, 11, 10 };

A. the value of someArray.length is 6;

B. the value of someArray[2] is 13;

C. an array cannot be created this way in Java;

D. the value of someArray[11] is 4;

E, none of the above.

6. Consider a class, RecordAlbum, which has three attributes: the artist name (stored as a String), the

record title (stored as a String) and the price (stored as a double). The constructor for this class takes

values for the artist name, title and price respectively. Now consider the following array declaration

RecordAlbum[] store= new RecordAlbum[100];

Which one of the following instructions would add the album "I love Java", by the artists "Charatan

& Kans" at a price of £12.99 into the 10th position in the array?

A. store[10] = new RecordAlbum("Charatan & Kans", "I love Java", 12.99);

B. RecordAlbum[10] = new store("Charatan & Kans", "I love Java", 12.99),

C. store [9]= new RecordAlbum("Charatan & Kans", "I love Java", 12.99),

D. store[11] = new RecordAlbum("Charatan & Kans", "I love Java", 12.99);

E. store [9]=("Charatan & Kans", "I love Java", 12.99).

7. Declaring a class as abstract means that:

A. the class consists entirely of abstract methods;

B. the class cannot be subclasssed;

C. it is not possible to declare objects of that class;

D. the class has no attributes of its own;

E. none of the above.

Declaring a class as final means that:

A. the class consists entirely of abstract methods;

B. the class cannot be subclasssed;

C. it is not possible to declare objects of that class;

D. the class has no attributes of its own;

VI: Big data modelin

What is MapReduce

A. programmi

B. databas

C. clow

E.. none of the above.

9. Assume that a two dimensional array is required to hold sales figures for 5 days of the week and for

52 weeks in the year. Which of the following is a correct way of creating such an array if the array is

to be called sales:

A. double sales = new double [5][52];

B. double [5][52] = new sales;

C. double [][] = new sales [S][52];

D. double [][] sales = new double [4][51];

10. Which of the following statements is NOT true in respect of the technique known as object

serialization?

A. any class in Java is automatically serializable;

B. serialization is the process of converting an object into a stream of data suitable for storage

on a disk;

C. the method writeObject of the ObjectOutputStream class enables us to write whole objects

to a file;

D. if a program uses the ObjectInputStream and ObjectOutputStream classes, then the files may

be accessed only within a Java program;

E. none of the above

PART VI: Big data modeling

1. What is MapReduce? It is a

A. programming model used for processing and analyzing large amounts of data

B. database management system used for storing and managing big data

C. cloud-based platform used for data storage and management

D. machine learning algorithm used for predictive analytics

2. What is the most commonly used evaluation metric for linear regression models?

C. Root mean squared error

A. Mean squared error

D. Coefficient of determination

B. Mean absolute error

3. What are some practical problems with the sigmoidal activation function in neural nets?

A. It is convex, and convex functions cannot solve nonconvex problems

B. It does not work well with the entropy loss function

C. It can have negative values

D. Gradients are small for values away from 0, leading to the "Vanishing Gradient" a

problem for large or recurrent neural nets

4. What is recall in classification evaluation techniques?

A. The percentage of true positive predictions out of all positive predictions

B. The percentage of true positive predictions out of all actual positive cases

C. The overall accuracy of a classification model

D. The ability of a classification model to avoid false negatives

5. What is the ROC curve used for in classification evaluation?

A. To evaluate the accuracy of a classification model

B. To compare the performance of different classification models

C. To determine the most important features for a classification model

D. To visualize the trade-off between the false positive rate and true positive rate

is mainly concerned with

6. Among the components of Big Data technologies,

representing data in a way that is easy for humans to understand.

A. Data capturing

B. Data processing

7. Identify the correct item about Apache Hadoop and Apache Spark Big Data

Technologies.

A. Hadoop is meant for batch processing and streaming

B. Spark is designed for in-memory processing

C. Spark has a higher latency compared to Hadoop

D. Hadoop has high-throughput with low-latency

8.From previously existing stock market data, predicting next week's stock price is an

example of

problem.

A. Classification

B. Regression

Simon C. Data storing

D. Data visualization

C. Clustering

D. None of the above

9.Data generated for one uses case may not be applicable to another use case. This describe

which characteristic of Big Data?

A. Velocity

B. Veracity

C.Validity

D. Value

10. All of the following accurately describe Hadoop, except

A. Open source

B. Real-time

C. Java-based

D.Distributed computing approach

PART: VI: Software Testing, Verification and Quality Assurance

1. Consider the following code snippet

for (int i = 0; i<10; i++) {

System.out.println("The value of i is: "+i);

}

Which of the following best describes the type of testing that would be performed on this code?

A. Boundary Value Analysis

B. Decision Coverage

C. Loop Testing

D. Static Analysis

What is the minimum

if (x >

2.

2. An application accepts the user's age as input, which must be between 18 and 65. The

application has been tested using various test cases, but it is still failing in some cases.

Which of the following test cases should be considered to validate the Boundary Value

Analysis?

all at ind

A. Age=18, Age = 17, Age=16, Age = 66, Age=67

B. Age = 18, Age = 19, Age=20, Age = 64, Age = 65

C. Age=16, Age=17, Age = 18, Age = 65, Age = 66

D. Age=16, Age=66, Age=67, Age = 68, Age = 69

3. A software development team is working on a new web application. The application is

complex, and the requirements are not fully defined. The team has decided to use

exploratory testing as part of their test strategy. Which of the following statements best

describes exploratory testing?

A. It is a scripted testing approach that follows a predefined test plan.

B. It is an ad-hoc testing approach that relies on the tester's knowledge and experience.

C. It is a testing approach that only tests a specific set of pre-defined scenarios.

D. It is a testing approach that is only suitable for testing small and simple

2. What is the minimum number of test cases required to achieve 100% decision coverage for the

below code snippet?

if (x > 0 && y < 10) (

z = 1;

} else if (x <= 0 && y >=10)

z = -1;

}

} else {

z = 0;

}

A. 1

B. 2

C. 3

D. 4

3. Which of the following testing techniques is most likely to identify syntax errors and

programming mistakes in the code?

A. Decision coverage

C. Statement coverage

D. Path coverage

B. Branch coverage

4. Which activity in the fundamental test process involves defining the objectives, scope, and

approach to testing?

A. Test Planning and Control

B. Test Analysis and Design

C. Test Implementation and

Execution

D. Test Closure

5. Which testing principle states that defects are not evenly distributed throughout the

software, and that a small number of modules or areas are likely to have a large number

of defects?

A. Testing shows the presence of defects

B. Exhaustive testing is not possible

C. Early testing saves time and money

D. Defect clustering occurs

6. Which of the following is a typical characteristic of integration testing?

A. It is typically done using white-box testing techniques

B. It focuses on testing individual units in isolation

C. It requires a significant amount of test data to be generated

D. It does not involve collaboration between developers and testers

7. What is the main difference between software verification and validation?

A. Verification focuses on ensuring that the software meets the user's needs, while validation

focuses on ensuring that the software is built correctly.

B. Verification focuses on ensuring that the right software is being built, while validation

focuses on ensuring that the software meets the specified requirements.

C. Verification focuses on ensuring that the software is being built correctly, while

validation focuses on ensuring that the software meets the user's needs.

D. Verification and validation are the same process

8. Which test level is the lowest level of testing in the V-Model?

A. Integration Testing

B. System Testing

C. Acceptance Testing

D. Unit Testing

9. What is a failure in software testing?

A. An expected outcome of a test

B. A deviation from the expected behavior of the software cola

C. A minor issue that does not impact the software or its users

D. A critical issue that can cause significant problems

10. A software testing professional has been asked to test a new feature for a client. However, the

tester realizes that the feature is not working properly and may cause harm to the end-users. The

client insists that the feature is released as scheduled, even though the tester has recommended

further testing. What ethical principle from the ISTQB Code of Ethics should the tester follow in

this situation?

A.Honesty

B.Respect

C.Fairness

D.Responsibility

PART II Fundamental of software engineering

1. From large to small scale software industries there are a series of activities are

followed to deliver the final software product. This sequence of activities for the

production of a software product is generally referred as

A Software model

B. requirement engineering

C. Software Process

D. Design process

2. There are general issues that affect many different types of software systems. Among, these

include different types of computer and mobile devices. Which of the following best describe

that software systems are required to operate as distributed systems across networks that

this behavior

A. Heterogeneity

B. Business and social change

C. Security and trust

D. System evolution

9. Models are u

perspectives-

betwe

A. externa

model and its

B. interac

C. behaw

D. struct

10. Which of th

3...........is a property of the software system that reflects its trustworthiness or the degree

of confidence a user has that the system will operate as they expect, and that the system will not

'fail' in normal use.

A. Reliability

B. Dependability

C. Availability

D. Scalability

6. Which of the following is considered as scenario based modeling during requirement

engineering

A. Use cases and user scenarios

B. Class diagram and collaboration

C. State diagram and sequence

diagram

D. DFDs and Data models

diagram

4. Assume you are working on word-processing software. You are planning to deliver basic file

management, editing, and document production functions in the first phase; more sophisticated

editing and document production capabilities in the second phase; spelling and grammar

checking in the third phase. Which of the following software process model you have to follow

for this type of scenario?

C. Incremental model

A. Spiral model

B. Rapid Application Development

D. Linear sequential model

5. Which of the following is less likely associated with AGILE method of development

A. Planning phase

B. Sprint Cycle

C. Sprint retrospective

D. Preparing extensive

documentation

7. Which of the following activities is not related with the requirement change management

process

A. analyzing the costs and benefits of proposed changes.

B. validating and approving those changes

C. tracking which components in the system have been changed

D. Prototyping the change request

8. "While eliciting requirements, you begin by elaborating objectives such as performance and

functionality. Next Alternative ways of achieving these objectives, and dealing with the

constraints on each of them, are then enumerated. Then each alternative is assessed against each

objective and sources of project risk are identified". Which software process model best fits

this.

A. Waterfall

B. Incremental development model

C. Staged delivery model

D. Spiral model

9. Models are used at different stage of the software development process to capture different

perspectives of the system and its interactions. Which of the following is wrongly matched

model and its purposes?

A. external perspective-> model the context or environment of the system

B. interaction perspective -> interaction between the components

C. behavioral perspective ->model the dynamic behavior of the system

D. structural perspective -> models object states at different stages

10. Which of the following nonfunctional requirement and their respective metrics are wrongly

matched? (Note: Items on the left of the arrow are nonfunctional requirements and items on the

right of the arrow are the respective metrics used to measure them)

A. Ease of use-→training time

B. Reliability →Rate of failure occurrence

C. Robustness → Probability of unavailability

D. Portability Number of target systems

PART IV: Web Design and Programming

R

1. When the switch statement matches the expression with the given labels, how is the comparison

done?

A. Both the datatype and the result of the expression are compared.

B. Only the datatype is compared without considering the result

C. Only the value of the expression is compared

D. None of the above

2. What will be the output of the following code snippet?

console.log(parseInt("543Javascript"));bodi

model the interactions between a system and its environment or

of a system

console.log(parseInt("Javascript123"));

A. 543

NaN

B. 543

123

3. What will be the output of the following CSS code snippet?

h1 {color: red text-decoration: underline; font-style: italic;}

A. color: red, text-decoration: underline works

B. only font-style: italic works

C. color: red, text-decoration: underline and font-style: italic all works

D. text-decoration: underline and font-style: italic works

4. Which option allows a sandboxed iframe to run script from the same domain?

A. allow-forms

C. allow-same-origin

B. allow-scripts

D. none of the above

5. What will be the width of the div element given below?

div {

width:310px;

padding: 20px;

border: 5px solid blue;

margin: 0;

}

A. 310px

B. 320px

C. 360px

D. 350px

10. Write an SQL statement to give every employee a 10% raise.

A. ALTER Emp SET salary-salary \* 1.1

B. MODIFY Emp SET salary-salary \* 1.1

C. CHANGE Emp SET salary-salary \* 1.1 to land

D. UPDATE Emp SET salary-salary \* 1.1

PART II: Fundamentals of Networking

When a client perceives a group of different computers as a single, cohesive system, this is

referred to as

A. Mail system

C. distributed system

B. networking system

D. computer network

2. When compared to the TCP/IP model, which layer does the OSI model add?

A. Application layer!

C. Presentation layer

B. Session and Presentation layer of to D. Session layer

The transport layer is used in

A. NIC

B. MAC

C. End system

D. Packet

4. The synchronization and delimiting of data exchange is done by

A. Data link layer

B. Session layer

C. Presentation layer

D. Application layer

5. Your IP address is 10.16.13.5, and your subnet mask is 255.255.255.128. What are your

broadcast, subnet, and class of addresses?

A. Class A, Subnet 10.16.13.0, Broadcast address 10.16.13.127

Class B, Subnet 10.16.13.0, Broadcast address 10.16.13.255

Class B, Subnet 10.16.0.0, Broadcast address 10.16.255.255

D. Class B, Subnet 10.16.13.0, Broadcast address 10.16.13.127

6. How many hosts and subnets are available at the 172.16.0.0/19 network address?

A. 9 subnets, 30 hosts each

D. 8 subnets, 8,190 hosts each

B. 7 subnets, 2,046 hosts each

C. 9 subnets, 2,046 hosts each

E. 1001001

7. Frames arrive at a rate of 5000 frames per second, with a length of 10,000 bits, and a channel

capacity of 100Mbps. Determine the average time delay.

A. 200 μsec

B. 300 μsec

C. 40 msec

D. 3000 μsec

8. The appropriate order (ascending) based on the network's size is

A. LAN, PAN, MAN, WAN

C. LAN, MAN, WAN, PAN

B. PAN, MAN, LAN, WAN ine D. PAN, LAN, MAN, WAN

9. The following binary notation to be converted to hexadecimal notation: 10000000 00001011

00000011 00011111

A. 0x 80 0B 03 IF

B. 0x 82 0B 03 IE

C. 0x 81 0B 04 1E

D. Ox 82 0C 04 1F

10. 213.125.67.82/27 is a given host classless address. Locate

the first address.

A. 213.125.67.82

B. 213.125.67.82

C. 213.125.67.82

D. 213.125.67.64