File: COSC112/TestJava/mmTestSolutions/OOPSol.txt

1. Objects are created from abstract data types that encapsulate \_\_ and \_together.

A. numbers, character

B. data, functions

C. addresses, pointers

D. integers, floats

ANSWER:

2. In OOP terminology, an object's member variables are often called its \_\_\_\_,

and its member functions are sometimes referred to as its behaviors, or \_\_\_\_.

A. values, morals

B. data, activities

C. attributes, activities

D. attributes/fields, methods

ANSWER:

3. A JAVA class is similar to one of these.

A. inline function

B. header file

C. library function

D. structure

ANSWER:

4. Examples of access specifiers are the keywords:

A. near and far

B. opened and closed

C. private and public

D. table and row

ANSWER:

5. This is used to protect important data.

A. public access specifier

B. private access specifier

C. protect()member function

D. class protection operator

ANSWER:

6. A \_\_\_ is a member function that is automatically called when a class object is \_\_\_.

A. destructor, created

B. constructor, created

C. static function, deallocated

D. utility function, declared

ANSWER:

7. When a constructor function accepts no arguments,

or does not have to accept arguments because of default arguments, it is called a(n):

A. empty constructor

B. default constructor

C. stand-alone function

D. arbitrator function

ANSWER:

8. This type of method may be called from a statement outside the class.

A. public

B. private

C. undeclared

D. global

ANSWER:

9. If you do not declare an access specification, the default for members of a class is

A. inline

B. private

C. public

D. global

ANSWER:

10. In a procedural program, you typically have \_\_stored in a collection

of variables, and a set of \_\_\_\_\_\_ that perform operations on the data.

A. numbers, arguments

B. parameters, arguments

C. Strings, operators

D. data, function

ANSWER:

11. A class is a(n) \_\_\_\_\_ that is defined by the programmer.

A. data type

B. function

C. method

D. attribute

ANSWER:

12. Assuming that Rectangle is a class name, the statement: Rectangle Box = new Rectangle();

A. declares an object of class Rectangle

B. is an incomplete

C. defines a Rectangle with its values

D. is illegal in JAVA

ANSWER:

13. This type of method function may be called only from a function that is a member of the same class.

A. public

B. private

C. global

D. Local

ANSWER:

14. The constructor function always has the same name as \_\_\_

A. the first private data member

B. the first public data member

C. the class

D. the first object of the class

ANSWER:

15. A class may have \_\_\_\_\_\_\_\_\_\_constructor(s).

A. only one

B. more than one

C. a maximum of two

D. any number of

ANSWER:

16. Objects in an array are accessed with \_\_, just like any other data type in an array.

A. indexes/subscripts

B. parentheses

C. statements

D. output format manipulators

ANSWER:

17. The process of object-oriented analysis can be viewed as the following steps:

A. Identify objects, then define objects' attributes, behaviors, and relationships

B. Define data members and member functions, then assign a class name

C. Declare private and public variables, prototype functions, then write code

D. Write the main() function, then determine which classes are needed

ANSWER:

18. Choose the piece of code related to make and print a Point in main():

class Point {

private int x; y;

public Point( int x, int y ) {this.x = x; this.y = y;}

public void print(){ System.out.print( '[' + x + ", " + y + ']';}

}

A. Point P(5,7); P.print();

B. P.x=5; P.y=7; P.print();

C. Point P = new Point(5,7); P.print();

D. Point P(5,7); print(P);

ANSWER:

19. See below the Line class. Choose a function for the length for the line:

class Line {

private Point P1, P2;

public Line( int x1, int y1, int x2, int y2 ) {

P1.setPoint(x1, y2); P2.setPoint(x2, y2);}

public Point getP1() {return P1;}

public Point getP2() {return P2;}

? length() { ? } }

A. public double length() {

return Math.sqrt( Math.pow((P1.getX()-P2.getX()),2) + Math.pow((P1.getY()-P2.getY()),2));}

B. public float length() {

return Math.sqrt( Math.pow((P1.X-P2.X),2) + Math.pow( (P1.Y-P2.Y),2));}

C. public int length() {

return Math.sqrt( pow((P1.getX()+P2.getX()),2)+pow((P1.getY()+P2.getY()),2));}

D. public float length() {

return Math.sqrt( Math.pow((P1.setX()-P2.setX()),2) - Math.pow((P1.setY()-P2.setY()),2));}

ANSWER:

20. Choose the correct piece of code to make and print a line and its length in main().

A. Line D (0,4,6,3); D.print(); System.out.print( D.length());

B. Point P1(0,4); Point P2(6,3); Line M; M.print();

C. Line D; D.P1.X=0; D.P2.Y=3; .D.print();

D. Line D (0,4,6,3); D.print(); D.length();

ANSWER:

21. Assume that myCar is an instance of the Car class, and that the Car class has a method named accelerate().

Which of the following is a valid call?

A. Car.accelerate();

B. myCar.accelerate();

C. myCar.accelerate;

D. accelerate(myCar);

ANSWER:

22. What is the output of the following program?

class TestClass {

TestClass(int x){ System.out.print(x) ); }

TestClass(){ System.out.print( "Hello!") ; }

public static void main( String args []){

TestClass test = new TestClass();

}}

A. The program runs, but with no output.

B. 0

C. Hello!

D. The program will not compile.

ANSWER:

23. What is the output of the following program?

class TestClass{

TestClass (int x) { System.out.print( x) ; }

TestClass () { System.out.print( "Hello!"; }

public static void main( String args []) {

TestClass test = new TestClass(77);

}}

A. The program runs, but with no output.

B. 77

C. Hello!

D. The program will not compile.

ANSWER:

24. What is the output of the following program?

class TestClass{

private int val;

void showVal() {System.out.print( val + " ") ; }

public TestClass(int x){ val = x; }

public static void main( String args []) {

TestClass test = new TestClass(77); test.showVal(); }}

A. The program runs, but with no output.

B. 0

C. 77

D. The program will not compile.

ANSWER:

25. Assume there is a filled ArrayList <Student> V; and we have:

class Student {

private String first;

private int YOG; //year of graduation

public Student (String s, int a ){first = s; YOG=a;}

void print() { System.out.print( first + " " + YOG);}

}

Choose the correct piece of code to print V:

A. for (int i=0; i < V.size(); i++){ V.get(i).print();}

B. for (int i=0; i < V.size(); i++){ V[i].print();}

C. for (int i=0; i < 3; i++){print(V[i]);}

D. for (int i=0; i < V.size(); i++){System.out.print( V.get(i);}

ANSWER:

26. In order to set the Student’s YOG we have to add a new method in the

Student class. Choose:

class Student {

private String first; private int YOG; //year of graduation

public Student (String s, int a ){first = s; YOG = a;}

void print() { System.out.print( first + " " + YOG);}

}

A. public String setFirst() { return X.first;}

B. void getFirst() { return Student.X.first;}

C. public void setYOG(String y) { YOG = y;}

D. public String setYOG(String y) {return first;}

ANSWER:

27. Choose the piece of code which makes a new student and displays: John 2015

class Student {

private String first;

private int YOG; //year of graduation

public Student (String s, int a ){first = s; YOG=a;}

void print() { System.out.print( first + " " + YOG);}

}

A. Student S = new Student("John",2015); S.print();

B. Student S; S.YOG=2015; S.first= "John"; S.print();

C. Student S = Student(20,"John"); print(S);

D. Student S = new Student (2015,"John"); print(S);

ANSWER:

28. Choose the piece of code which makes a new student and displays: 2015Dan

class Student {

private String first; private int YOG;

public Student (String first, int YOG){this.first = first; this.YOG=YOG;}

void print() { System.out.print( first + " " + YOG);}

public String getFirst(){ return first;}

public String getYOG(){ return YOG;}

}

A. Student S = new Student("Dan",2015);System.out.print( S.getYOG()+S.getFirst());

B. Student S; S.YOG=2015; System.print(S.first + S.YOG());

C. Student S; setStudent(2015,"Dan"); print(S.first);

D. Student S(2015,Dan); print(S);

ANSWER:

29. Choose the correct piece of code in main() to print S’s name, where

Student S = new Student("John",20);

You have

class Student {

private String first; private int YOG;

public Student (String first, int YOG){this.first = first; this.YOG=YOG;}

void print() { System.out.print( first + " " + YOG);}

public String getFirst(){ return first;}

}

A. System.out.print( S.getFirst());

B. S.toString();

C. System.out.print( S.first());

D. System.out.print( Student.getFirst());

ANSWER:

30. Which of the following pairs might have an ISA inheritance relationship?

A. student-person

B. course-teacher

C. student-college

D. college-course

ANSWER:

31. Which of the following pairs might have an ISA inheritance relationship?

A. square-polygon

B. circle-polygon

C. circle-square

D. polygon-area

ANSWER:

32. Which of the following pairs might has an ISA inheritance relationship?

A. dog-pet

B. dog-cat

C. dog-address

D. dog-dateofbirth

ANSWER:

33. Which of the following pairs might has an ISA inheritance relationship?

A. dog-pet

B. dog-cat

C. dog-address

D. dog-dateofbirth

ANSWER:

34. Which of the following pairs might has an ISA inheritance relationship?

A. dog- mammal

B. dog- owner

C. dog- person

D. dog- student

ANSWER:

35. What do you need to have in the Student class in order to display X?

public static void main( String args []) {

Student X = new Student("Kevin",1995);

System.out.println(X);}

A. public void toString(){ return name + YOG;}

B. public String toString(){ return name + YOG;}

C. public void toString(){ name + YOG;}

D. private void toString(){ name + YOG;}

ANSWER:

36. Fix ONE error in main().

public static void main( String args []) {

Person X = new Person("Kevin",1995);

getName(X); // should print: Kevin

}//main

A. System.out.print( Name);

B. Kevin.print();

C. System.out.print( X.getName());

D. System.out.print( X.getName);

ANSWER:

37. Fix ONE error in main().

Student X = new Student("Ane",1995);

X.name = "Anne"; // should correct Ane to Anne

A. X.Ane ="Ane";

B. Ane = "Anne";

C. X.setFirst("Anne");

D first(X) ="Anne";

ANSWER:

38. Fix ONE error in main():

List <Student> A = new ArrayList <> ();

??Student X = ("Ane",1995);

V.add(X);

A. Student X = new Student("Ane",1995);

B. Student X = new ("Ane",1995);

C. Student X("Ane",1995);

D. X = new Student("Ane",1995);

ANSWER:

39. Read 3 students and print them. You have a Student class with fields

name and yog. What is missing in the for loop?

List <Student> V = new ArrayList <>();

for (int i =0 ; i < 3 ; i++){

System.out.print("Enter name and yog?");

String s = cin.next(); int y = cin.nextInt(); cin.nextLine();

}

A. V.add(s,y);

B. V.add(Student(s,y));

C. V.add(new Student(s,y));

D. V[i].add(s,y);

ANSWER:

40. You wish to find a student by name in your ArrayList of Students.

In order to do this you design a function that returns

the first position of the student in the ArrayList and returns -1

if you don’t find it. Choose code:

A. int myfind (List <Student> V,String s) {

for ( int i=0; i < V.size(); i++ ) {

if (V[i].getFirst() == s) return i;

else return -1;}

B. int myfind (List <Student> V,String s) {

for ( int i=0; i < V.size(); i++ ) {

if (V.get(i).getFirst() == s) return i;

}return -1;}

C. void myfind (List <Student> V,String s) {

for ( int i=0; i < V.size(); i++ ) {

if (V.get(i).first = s) return i;

} return -1;}

D. int myfind (List <Student> V,String s) {

for ( int i=0; i < V.size(); i++ ) {

if (V.get.getFirst() == s) return i;

return -1;}

ANSWER:

41. This program is building and printing a Deck of cards.

Choose the correct function to fill a Deck of cards: List <Card> DD(52);

class Card {

char face, suit; // Heart Diamond Club Spade

static String FACE = "23456789TJQKA", SUIT = "HDCS";

Card(char face, char suit){this.face = face ; this.suit = suit;}

}

A. void fillDeck(List <Card> D) {

for (int i = 0; i < 52 ; i++){

D.add(SUIT[i],FACE[i]); } }

B. void fillDeck(List <Card> D) { ;

for (int i = 0; i < 13 ; i++){

for (int j =0 ; j < 4 ; j++){

D[k].add(Card(SUIT[i],FACE[j]); }}}

C. void fillDeck(Card [] D) {

for (int i = 0; i < 4 ; i++){

for (int j =0 ; j < 13 ; j++){

D[k].suit = SUIT[i];

D[k].face = FACE[j]; k++; } } }

D. void fillDeck(List <Card> D) {

for (int i = 0; i < 4 ; i++){

for (int j = 0 ; j < 13 ; j++){

D.add(new Card(FACE.charAt(i),SUIT.charAt(j); }}}

ANSWER:

42. What code would you choose to shuffle an Array of cards V:

A. V.shuffle();

B. shuffle(V);

C. Arrays.shuffle(V);

D. Collections.shuffle(V);

ANSWER: