

16. To catch an exception, code must be enclosed in a
a.throws clause.
b.catch clause.
c.try block.
d.finally clause.

17. The code in a finally block:
a.Is always executed if the corresponding try block is entered.
b.Is executed only if an exception occurs.
c.Is executed only if an exception does not occur.
d.Is executed only if there are no catch blocks.

18. Which of the following statements about try blocks is true?
a.The try block must be followed by at least one catch block.
b.The try block must be followed by a finally block.
c.The try block should contain statements that may throw an exception.
d.The try block should contain statements to process an exception.

19. Consider the following method declaration:

```
public void example()  
{  
    DecimalFormat precision3 = new DecimalFormat( "0.000" );  
    try {  
        int number1 = Integer.parseInt( input1.getText() );  
        int number2 = Integer.parseInt( input2.getText() );  
        double result = quotient( number1, number2 );  
        output.setText( precision3.format( result ) );  
    }  
    catch ( NumberFormatException nfe ) {  
        JOptionPane.showMessageDialog( this,  
            "You must enter two integers",  
            "Invalid Number Format",  
            JOptionPane.ERROR_MESSAGE );  
    }  
    catch ( DivideByZeroException dbze ) {  
        JOptionPane.showMessageDialog( this, dbze.toString(),  
            "Attempted to Divide by Zero",  
            JOptionPane.ERROR_MESSAGE );  
    }  
}
```

Which statement with reference to the method example above is not true?

a.The variables number1 and number2 cannot be referenced in either catch block.
b.The variable precision3 can be referenced in both catch blocks.
c.The variable result cannot be referenced in either catch block.
d.All of the above are true.

20. Which of the following is not an existing class in Java?

a.ArithmeticException.
b.DivideByZeroException.
c.NumberFormatException.
d.All of the above exist in Java.

21. Which of the following exceptions is a checked exception?
a. ArithmeticException.
b. RuntimeException.
c. IOException.
d. NumberFormatException.
22. Which of the following statements is true after a catch block is entered to handle an exception?
A. A catch block can rethrow an exception that it has not handled.
B. A catch block can rethrow an exception that it has partially handled.
C. A rethrown exception is detected by the next enclosing try block.
D. A rethrown exception may be handled by an exception handler list after that enclosing try block.
E. A catch block cannot rethrow an exception that it has completely handled.
a. All of the above.
b. B, C, D, E.
c. A, B, C, D.
d. A, B, D, E.
23. Which of the following statements is false?
a. A finally clause is placed after the last catch clause.
b. A finally clause should release all resources acquired in the corresponding try block.
c. A finally clause is optional.
d. The finally clause and try block can appear in any order.
24. Which of the following statements is true?
a. Using existing exceptions makes the program less robust.
b. Always create your own exception class.
c. Like any other class, an exception class can contain fields and methods.
d. The new class should extend RuntimeException if the program should be required to handle the exception.
25. Java programs communicate with databases using what API?
a. DBMS.
b. JDBC.
c. RDBMS.
d. Database.
26. What is the benefit of using JDBC?
a. It is a simple-to-use database management system.
b. It is a multi-platform database management system.
c. It provides a GUI for database management systems.
d. Allows developers to change the underlying database without modifying the Java code.
27. Which symbol is the wildcard character for all items?
a. '?'.
b. '*'.
c. '+'.
d. ''.
28. Selection criteria can be added to an SQL query using which clause?
a. FROM.
b. WHERE.
c. SELECT.
d. LIKE.

29. Pattern matching in an SQL query is performed with which clause?

- a.FROM.
- b.WHERE.
- c.SELECT.
- d.LIKE.

30. Classes and interfaces for the JDBC API can be found in which package?

- a.java.jdbc.
- b.javax.jdbc.
- c.java.sql.
- d.javax.sql.

I- Explain the code and draw the output (20 pts)

```
public class Mystery extends JFrame implements ActionListener {
    private final int MYVARIABLE = 9999999;
    private Timer timer;
    private int numberLines;

    private JTextField input;

    public Mystery()
    {
        super( "Mystery" );

        numberLines = 100;

        timer = new Timer( 1000, this );
        timer.start();

        input = new JTextField( 10 );

        Container container = getContentPane();
        container.setLayout( new FlowLayout() );
        container.add( input );

        input.addActionListener(
            new ActionListener() {
                public void actionPerformed( ActionEvent event ) {
                    numberLines = Integer.parseInt( input.getText() );
                }
            }
        );
        setSize( 300, 300 );
        setVisible( true );
    }

    public void paint( Graphics g )
    {
        super.paint( g );
    }
}
```

II- Consider the function (15 pts)

```
public void start()
{
    try {

        connection = new Socket(
            InetAddress.getByName( "127.0.0.1" ), 12345 );

        input = new DataInputStream( connection.getInputStream() );
        output = new DataOutputStream( connection.getOutputStream() );
    }

    catch ( IOException ioException ) {
        ioException.printStackTrace();
    }

    outputThread = new Thread( this );
    outputThread.start();
}
```

- 1- In which type of application this function is implemented?
- 2- Explain the try block
- 3- The last line is it obligatory?? Why or why not?

III- Consider the function (15 pts)

```
public void run()
{
    while ( true ) {

        try {
            String message = input.readUTF();
            abc( message );
        }

        catch ( IOException ioException ) {
            ioException.printStackTrace();
        }
    }
}
```

- 1- In which type of application this function is implemented
- 2- Explain the try block
- 3- in your opinion what is the role of the function abc?

IV- In this exercise please include all the details required (20 pts):

- 1- Create a class account record (acc number, first, last, balance)
- 2- Create a class transaction record (acc, balance)
- 3- Using the above classes write a one program to create data to put into an account file (oldmast.dat) and a transactions file (trans.dat)