

Highlight your answers, only one selection for multiple choice. Multiple choice questions are worth 10 points, unless grouped with True/False questions (the true/false questions are worth 2 points each)

1a: Which of the following is not a GUI component (control or widget)? (4pts)

- a. String.
- b. Button.
- c. Menu.
- d. Combo box.

1b: Which component contains menus? (4pts)

- a. Menu button.
- b. Title bar.
- c. Menu bar.
- d. Combo box.

1c: True or False: Together, the appearance and the way in which the user interacts with the application are known as that application's look-and-feel.

2a. Which of the following properly create and initialize a Font object? (5 points)

- A. `Font f = new Font();`
- B. `Font f = new Font("Serif", Font.Bold + Font.Italic, 19);`
- C. `Font f = new Font(Font.Bold, 20, "SansSerif");`
- D. `Font f = new Font(20, Font.Bold, "Monospaced");`

2b: Method `getFont` of class `Graphics` returns _____. (5 points)

- a. the current font name as a string
- b. the font size in points
- c. a `Graphics` object representing the current font
- d. a `Font` object representing the current font

3a: Consider the examples below:

- I. a string. - dont know what is ment hear
- II. 'a string'. - Char
- III. "a string".
- IV. "1234".
- V. integer. - dont know what is ment hear

Which could be the value of a Java variable of type String? (4 points)

- a. I and II.
- b. II and V.
- c. II and III.
- d. III and IV.

3b: StringBuilder objects can be used in place of String objects if _____. (4 points)

- a. the string data is not constant
- b. the string data size may grow
- c. the programs frequently perform string concatenation
- d. All of the above.

3c: **True** or False: A regular expression can be used for pattern matching.

4a: True or **False**: A parallel path starts from the directory in which the application began executing.

4b: **True** or False: The Path class method getFileName returns the String name of a file or directory without any location information.

4c: What does the following statement do? (6 points)

```
Scanner scanner = new Scanner(Paths.get("test.txt"));
```

- a. Opens a binary file for input.
- b. Opens a binary file for output.
- c. Opens a text file for input.
- d. Opens a text file for output.

5a: JSliders generate what type of event? (4 points)

- a. ActionEvents.
- b. ChangeEvents.
- c. WindowEvents.
- d. MouseEvents.

5b: **True** or False: JFrame is a lightweight component.

5c: **True** or False: A JFrame window will look like all other windows displayed on that platform.

5d: **True** or False: JSliders generate ChangeEvent type of events.

6a: It's recommended that you do not explicitly create and use Thread objects to implement concurrency, but rather use the _____ interface. (5 points)

- a. ExecutorService
- b. Runnable
- c. Concurrent
- d. Executor

6b: The preferred means of creating multithreaded Java applications is by implementing the _____ interface. An object of a class that implements this interface represents a task to perform. (5 points)

- a. Thread
- b. Runner
- c. Runnable
- d. None of the above. - Executor?

7a: **True** or False: When a synchronized method or block is running on an object, the object is locked so no other such method can run on that object at the same time.

7b: True or **False**: The preferred means of creating multithreaded Java applications is by implementing the **Runnable** interface. An object of a class that implements this interface represents a task to perform.

7c: **True** or False: Thread priorities guarantee the order in which threads execute.

7d: **True** or False: A runnable thread enters the terminated state (sometimes called the dead state) when it successfully completes its task or otherwise terminates (perhaps due to an error).

7e: True or **False**: A new thread begins its life cycle by transitioning to the runnable state.

SECTION 23.2 says:

Section 23.2 Thread States and Life Cycle

- A **new thread begins its life cycle** in the *new* state (p. 961). When the program starts the thread, it's placed in the *runnable* state. A thread in the *runnable* state is considered to be executing its task.

It then transitions to the runnable state. I know it starts in the new state(Step 1), but then transitions into runnable(Step 2). I feel this question is a bit confusing.

8a: The default sort order in a sorted query is _____.

- a. ascending
- b. descending
- c. natural
- d. None of the above

8b: **True** or False: Selection criteria can be added to a SQL query using the WHERE keyword.

8c: **True** or False: The relationship between a primary key and its corresponding foreign keys is called the **one-to-many** relationship.

8d: **True** or False: A foreign key is a column (or set of columns) which have a unique value that cannot be duplicated in other rows.

9a: Which symbol indicates that all columns should be retrieved? (5 points)

- a. ?
- b. *
- c. +
- d. /

9b: Which symbol in a JDBC preparedStatement indicates query parameters? (5 points)

- a. ?- the question Mark
- b. *
- c. +
- d. /

10. Suppose we have a database for a veterinarian clinic. Assuming we have a table named Pets, with the fields: PetName, PetType (with values of "Cat", "Dog", "Iguana"), PetAge, and NewPatient (with values of True or False), write a database query that will query for all Cats that are not new patients, with PetName sorted in ascending order. (10 points)

database query that will:
query for all Cats that are not new patients
with PetName sorted in ascending order

PetName (PetType= Cats and NewPatient=false)
PetType if (PetType= Cats and NewPatient=false)
PetAge if (PetType= Cats and NewPatient=false)

Query:

```
"SELECT PetName, PetType, PetAge, NewPatient FROM Pets \n" +  
"WHERE Pets.PetName="Cat" + "WHERE Pets.NewPatient =false +  
ORDER BY PetName ASC";
```