

# Subject Name (Code) - Exam Term Solution

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Month Day, Year

## Question 1(a) [3 marks]

Explain the usage of “Smart Quotes” and inline code styling.

### Solution

When writing text, always use LaTeX smart quotes. For double quotes, use two backticks and two single quotes: “Like This”. For single quotes, use one backtick and one single quote: ‘Like This’.

For inline code fragments, use the

`code{}` command. Do not use

`texttt{}`.

- **Consistency:** Ensures all files look professional.
- **Typography:** Smart quotes look better than straight quotes in text.

### Mnemonic

“SQC: Smart Quotes in Content, Straight Quotes in Code”

## Question 1(b) [4 marks]

Differentiate between Abstract Class and Interface using a table.

### Solution

Use the `table` environment for comparisons. Note that the caption is placed **above** the table.

We use `tabulary` as the standard environment because it adapts to content width automatically. use L for left-aligned columns that wrap if needed, C for centered, etc.

#### Example 1: Wrapping Text (Adaptive)

**Table 1.** Abstract Class vs Interface

Feature	Abstract Class	Interface
Method	Can have implementation	Abstract (mostly)
Vars	Any type	<code>public static final</code>
Inherit	<code>extends</code> keyword	<code>implements</code> keyword

#### Example 2: Compact Data (Auto-shrinks)

**Table 2.** Simple Data Comparison

Type	Size
int	4 bytes
long	8 bytes

**Mnemonic**

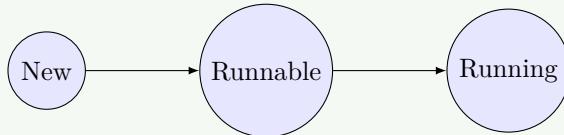
“MVI: Methods Variables Inheritance differences”

**Question 1(c) [7 marks]**

Draw the thread life cycle and write a program to demonstrate thread creation.

**Solution**

For diagrams, use standard TikZ with inline styles. Caption goes **below** the figure.



**Figure 1.** Simplified Thread Life Cycle

For code, use the `lstlisting` environment. Ensure you use **straight quotes** ("") inside the code block so text can be copied correctly.

**Listing 1.** Thread Creation Example

```

1  class MyThread extends Thread {
2      public void run() {
3          // correct: using straight quotes
4          System.out.println("Thread is running...");
5      }
6  }
7
8  public class Main {
9      public static void main(String[] args) {
10         MyThread t1 = new MyThread();
11         t1.start(); // Start the thread
12     }
13 }
```

**Mnemonic**

“NRR: New Runnable Running states”

**Question 1(c OR) [7 marks]**

How do we handle alternative questions?

**Solution**

Simply use the `OR` suffix in the question number argument. This ensures proper indexing in the final document.

- **Flexibility:** Supports GTU's optional question format.
- **Apostrophes:** Use single quote ': It's easy!