1. Short Answers
   1. **Name the differences between imperative and functional programming.**

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| **Imperative Programming** | **Declarative Programming** |
| In this, programs specify **how** it is to be done. | In this, programs specify **what** is to be done |
| It has many side effects as it contains mutable variables. | It has no side effects as it does not contain mutable variables. |
| It simply describes the control flow of computation. | It simply expresses the logic of computation. |
| Its main goal is to describe how to get it or accomplish it. | Its main goal is to describe the desired result without concerning about how to get it. |
| Its advantages include ease to learn and read | Its advantages include effective code using several ways. |
| It includes procedural programming, object-oriented programming. | It includes logic programming and functional programming. |

* 1. **Explain the meaning of declarative programming. Give an example.**

This programming is focusing for **what** to get rather than **how** to get it. For instance, if you would like to switch on light then you only know what you are going to accomplish to turn on the light, you never know how the light is going to be turned on. You just push the button for example. This is functional programming or logical programming. It has no side effects compared to Imperative Programming style as it has no mutable variables. It makes the code more effective.

In this, function does not cause change of state of objects meaning it does not change the state of its enclosing object/class. In general, function does not have side effects.

* 1. **Name the benefits of including functional style programming in Java.**
     1. Programs are more compact, easier to write, and easier to read/understand.
     2. Programs are thread safe.
     3. Easier to demonstrate correctness of functional programs.
     4. Easier to test; less likely that a test of a subroutine would fail tomorrow if it passed today since there are no side effects.