ECE 410 Assignment 1

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1.

2. Code:

```
TYPE quark_t IS (up, down, charm, strange, top, bottom);
```

   (a) 3
   (b) down
   (c) strange
   (d) top
   (e) strange
   (f) charm

3. 'U' means the value is not initialized yet, so it could be anything from a strong signal or a floating value, as we have not assigned anything to it yet. 'X' is the value that signifies multiple drivers are assigning values to that port, indicating that there might be an issue with the design. 'W' is for weak signal where it can't be determined whether it's a weak high or low. 'Z' is a high impedance value used for implementing three-state logic, "disconnecting" that port from the bus. '-' is for don't care values, usually for control flow and other matching statements.

4.