**DDR Assignment 3**

**Salman Ahmed Khan**

**19K-1043 BS SE (A)**

**Bad Code Smells**

Mysterious Name: Change unclear names to a suitable name. Perform Change Function Declaration, Rename Variable and Rename Field.

Duplicate Code: Rewriting the code into multiple places. Identify the difference and similarities between the codes. Do Extract Function, Slide Statements and Pull Up Method to resolve it.

Long Function: A function that exceeds line more then 8-10 is usually consider as a long functions. A function should be able to read quickly and is able to be understand. Perform Extract Function, Replace Function with Command, Replace Temp with Query, Replace Conditional with Polymorphism.

Long Parameter List: An ideal function has a parameter that does not exceed more then three. If it exceeds, it consider to be long parameter list. Use Replace Parameter with Query, Remove Flag Argument, Introduce Parameter Object.

Divergent Change: If one module require changes every time when new features are added. To remove this, perform Extract Class, Extract Method, Split Phase.

Shortgun Surgery: When a change is performed, it then requires multiple changes to be made to other different modules. To cater this, do Move Function, Move Field, Split Class.

Feature Envy: When a module requires to communicate with another module multiple times. Perform Extract Function, Move Function.

Repeated Switches: Every time a feature is added, a case need to be written. Perform Replace Conditional with Polymorphism.

Loops: Multiple loops are used within a function. Do Replace Loop with Pipeline.

Lazy Element: To add structure within a module do Inline Function, Inline Class.

Large Class: A class trying to do so much task on its own. Perform Extract Class, Extract Super Class.

b. The two I liked the most is Duplicate Code and Repeated Switches

c. I didn’t understand are Refused Bequest and Data Class