# Bad Smells

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| Name: | Primitive Obsession |
| Location: | src/controller – controller.py – Controller – chart\_bar and chart\_pie  – Lines 120, 121, 127, 128 |
| Reasons: | 1. The primitives are storing the indexes of lists passed to the graph package. 2. These primitives are explaining a part of the code that can be rewritten in a much easier to understand way. |
| Strategies/ approaches: | 1. Create a class to fix and store the list. 2. Give the class methods to get the label and data parts of the list, meaning no primitives being used for list parts. |

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| Name: | Dead Code |
| Location: | src/logger |
| Reasons: | 1. Whole package was used for debugging of data file reading. 2. Package is not used in assignment 1 hand in. 3. Creates extra project size and baggage. |
| Strategies/ approaches: | 1. Remove the whole package to a folder outside the project. 2. Removal of the package from the project repository for further updates. |

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| Name: | Duplicate Code |
| Location: | src/validator  *Parent class*: validate\_field.py – ValidateField – get\_field – Line 20  Child Classes:   * bmi.py – BMI – get\_field – Line 21 * emp\_id.py – EmpID – get\_field – Line 21 * gender.py – Gender – get\_field – Line 21 |
| Reasons: | 1. Adds complexity. 2. Looks ugly and stupid. 3. Occurred from programmer unfamiliarity with the language. |
| Strategies/ approaches: | 1. Pull up method: Moving the method to the parent and overriding the method when a string is not the return value. |

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| Name: | Duplicate Code |
| Location: | src/validator – dob.py – DOB – get\_db\_friendly and get\_field – Lines 59 to 63 |
| Reasons: | 1. The get\_field method only calls the get\_db\_friendly method and nothing else. 2. This adds unnecessary bloat and complexity to the class. |
| Strategies/ approaches: | 1. Transfer the internals of get\_db\_friendly to get\_field. 2. Remove get\_db\_friendly. |

**Worst Smell:**

Smell 3 is the worst smell because it adds the most unnecessary lines of code into the program. Smell 2 cannot be the worst as this whole package can be completely ignored in future development as it is not currently used in the program.