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**GitHub Link:** <https://github.com/ethanrangel/ITSC3155Spring2025/tree/main/HorribleCodeActivity>

### Program Description:

This program is a basic calculator that allows the user to perform arithmetic operations. The user is prompted to input two numbers and then select an operation (addition, subtraction, multiplication, or division). The program then performs the calculation and returns the result.

However, we created two versions of the program:

1. BadCode.py, which violates coding principles.
2. FixedCode.py, which follows best practices to make the code cleaner, more efficient, and maintainable.

We focused on three key principles to demonstrate good and bad coding practices:

Principle	BadCode.py	FixedCode.py
<b>1. Missing Code Documents</b>	<pre>def divide(number1, number2):     return number1 / number2  def add(number1, number2):     sum = 0     numberarray = [number1, number2]#Violates KISS     for i in numberarray:         sum += i     return sum  def subtract(number1, number2):     return number1 - number2 - number1 + number2</pre> <p>The original code has no comments, making it difficult to understand. Some methods of finding the return output are unclear, and there are no docstrings explaining function behavior.</p>	<pre>def divide(number1, number2):     """Return a int     Division result between two     numbers (number1 and number2)     """     def add(number1, number2):         """Return a int         Addition result between two         numbers (number1 and number2)         """         def subtract(number1, number2):             """Return a int             Subtraction result between two             numbers (number1 and number2)             """</pre> <p>The fixed version includes proper documentation. Each function has a docstring explaining its purpose, and meaningful variable names improve clarity. This makes the code easier to read and maintain.</p>

<h2>2. KISS</h2>	<pre>def add(number1, number2):     sum = 0     numberarray = [number1, number2]#Violates KISS     for i in numberarray:         sum += i     return sum def subtract(number1, number2):     return number1 - number2 - number1 + number2</pre> <p>The add() function unnecessarily loops through a list to add two numbers, making the logic far more complicated than needed. The subtract() function performs unnecessary operations instead of simply subtracting one number from another.</p>	<pre>def add(number1, number2):     """Return a int     Addition result between two     numbers (number1 and number2)     """     return number1 + number2 def subtract(number1, number2):     """Return a int     Subtraction result between two     numbers (number1 and number2)     """     return number1 - number2</pre> <p>The add() function now directly returns number1 + number2, and the subtract() function correctly returns number1 - number2. These changes eliminate redundancy and improve readability.</p>
<h2>3. YAGNI</h2>	<pre>def multiply(number1, number2):     if number1 == "Hi I love mountain dew": #YAGNI         return "WHAT NO WAY I LOVE MOUNTAIN DEW AS WELL"     return number1 * number2 def manhattandistance(number1, number2): #YAGNI</pre> <p>The code includes an unnecessary manhattandistance() function, which is completely unrelated to the calculator. Additionally, the multiply() function contains an irrelevant Easter egg about Mountain Dew, which serves no purpose in the program.</p>	<pre>def multiply(number1, number2):     """Return a int     Multiplication result between     two numbers (number1 and number2)     """     return number1 * number2</pre> <p>The manhattandistance() function and the Mountain Dew reference have been removed, as they do not contribute to the program's intended functionality. This ensures the code only contains what is necessary.</p>

## Commit History for Bonus:

# Commits

History for [ITSC3155Spring2025](#) / [HorribleCodeActivity](#) on [main](#)

Commits on Feb 19, 2025

**Fet: Fixing input type errors and accounting for different inputs**

 Ethan Rangel committed 1 minute ago

**feat: add main function**

 IrfanCamparaGithub committed 24 minutes ago

**feat add subtraction and multiplication function**

 IrfanCamparaGithub committed 24 minutes ago

**feat add addition and division function**

 IrfanCamparaGithub committed 25 minutes ago

**Add: Unnecessary functions and logic (violates YAGNI and clean code)**

 Ethan Rangel committed 1 hour ago

**Add: Calculation functions with bad logic (violates KISS and clean code)**

 Ethan Rangel committed 1 hour ago

**Add: Initial calculator structure (violates documentation and clean code)**

 Ethan Rangel committed 1 hour ago

Commits on Feb 18, 2025

**Fet: adding Bad Code Activity and two python files**

 Ethan Rangel committed yesterday

End of commit history for this file