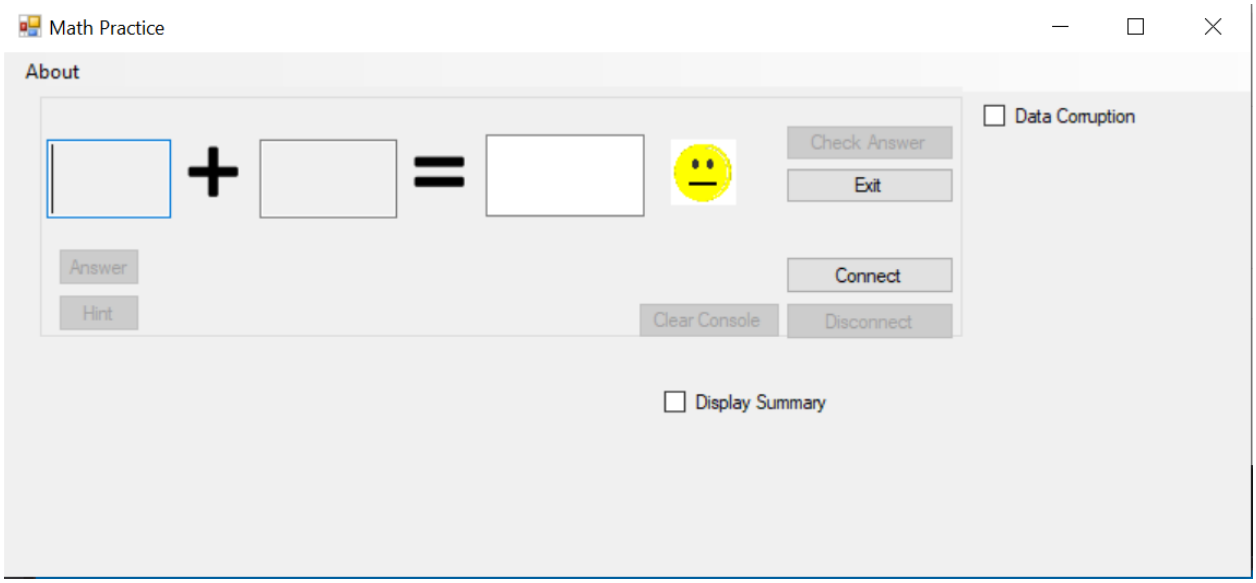
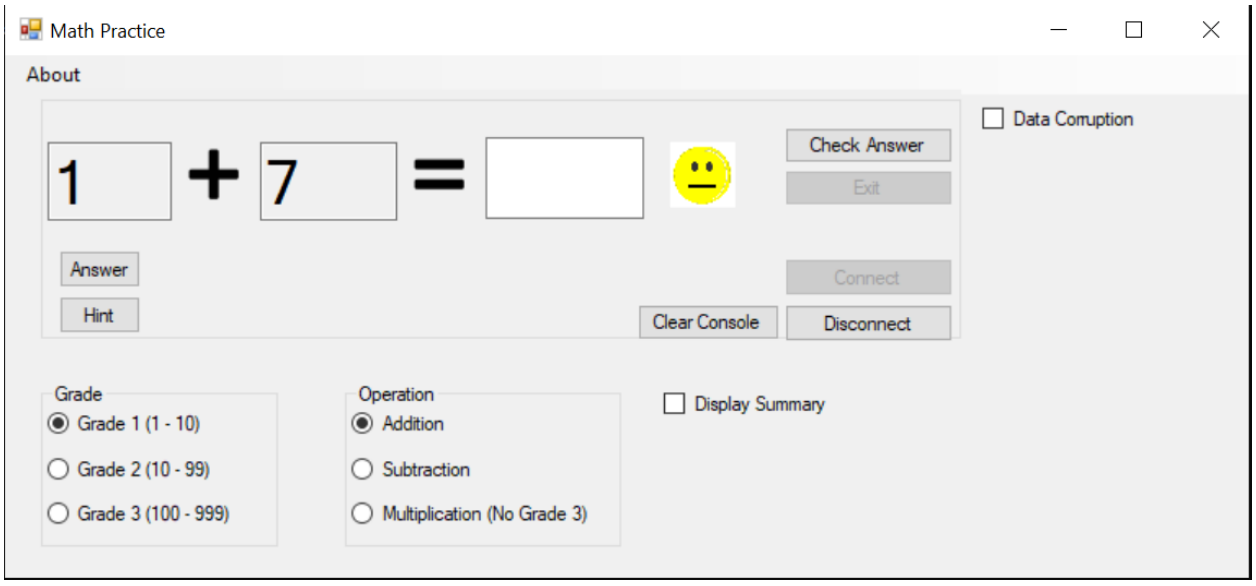
Alex Reilly

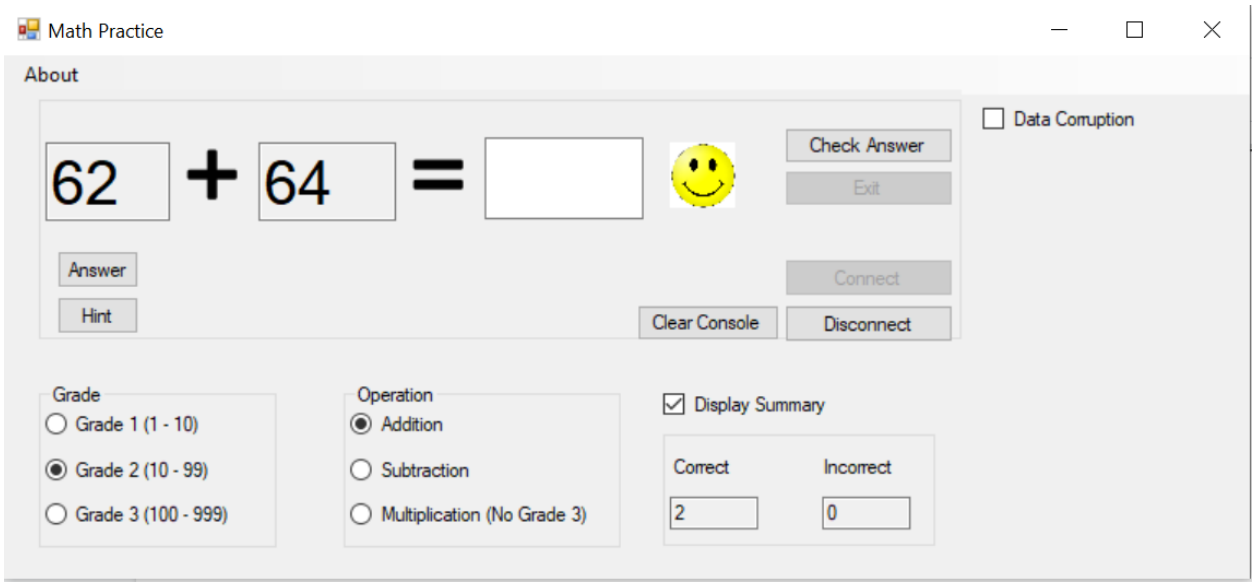
GUI Design: (Disconnected)



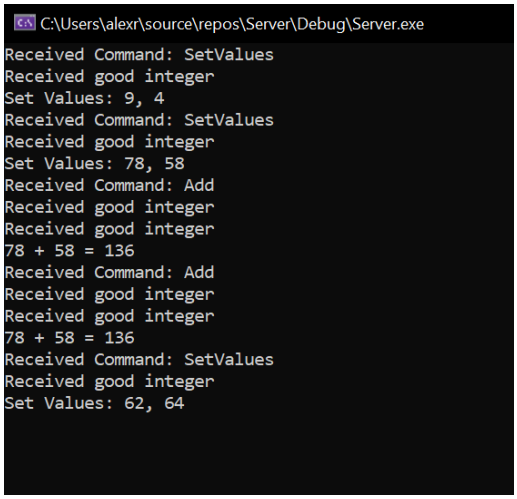
Connected:



Testing getting values and adding them
Gui:

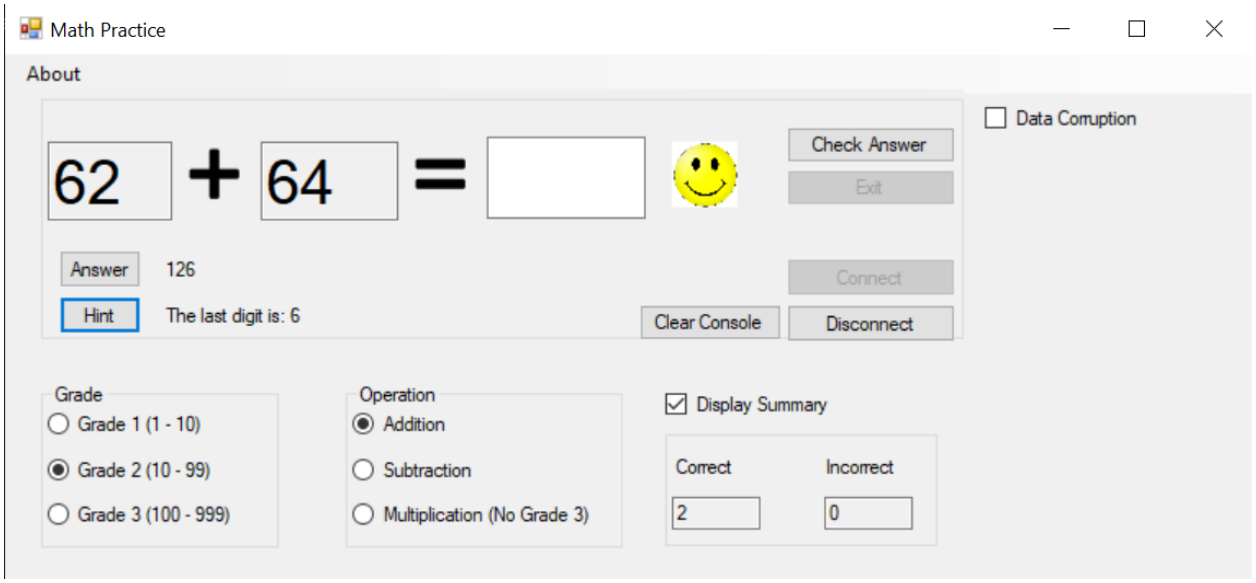


Console:

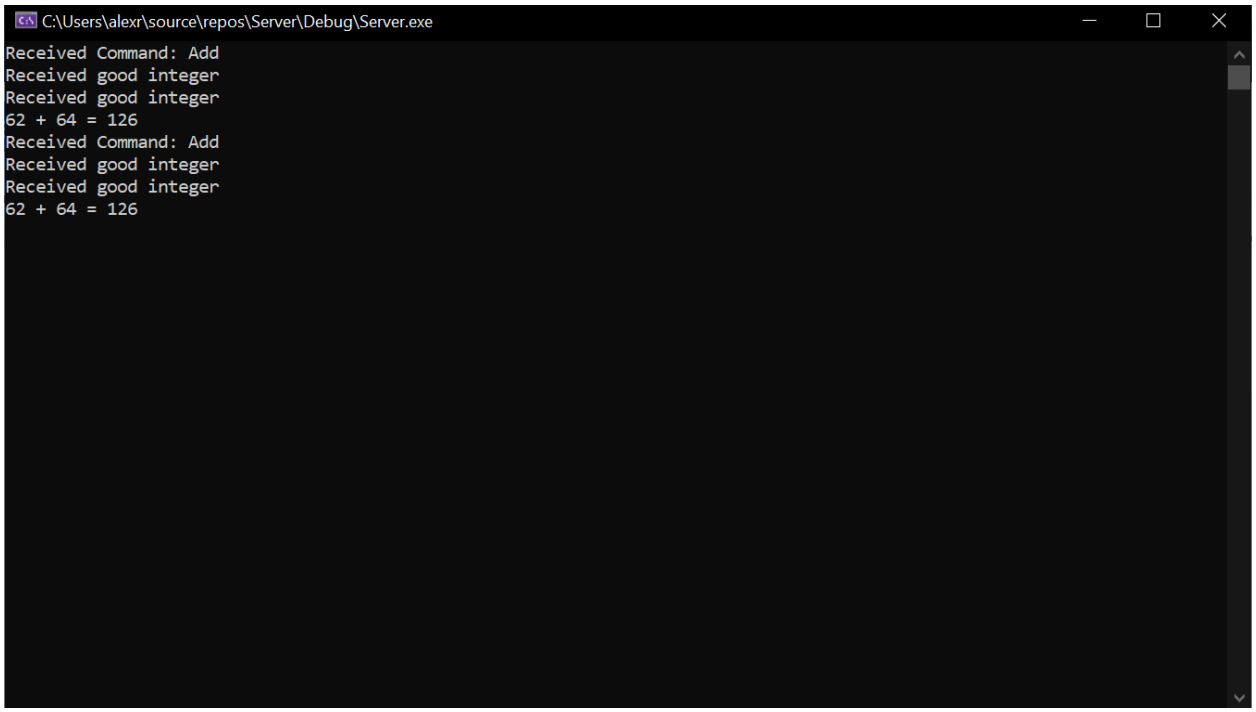


Answer and Add functions:

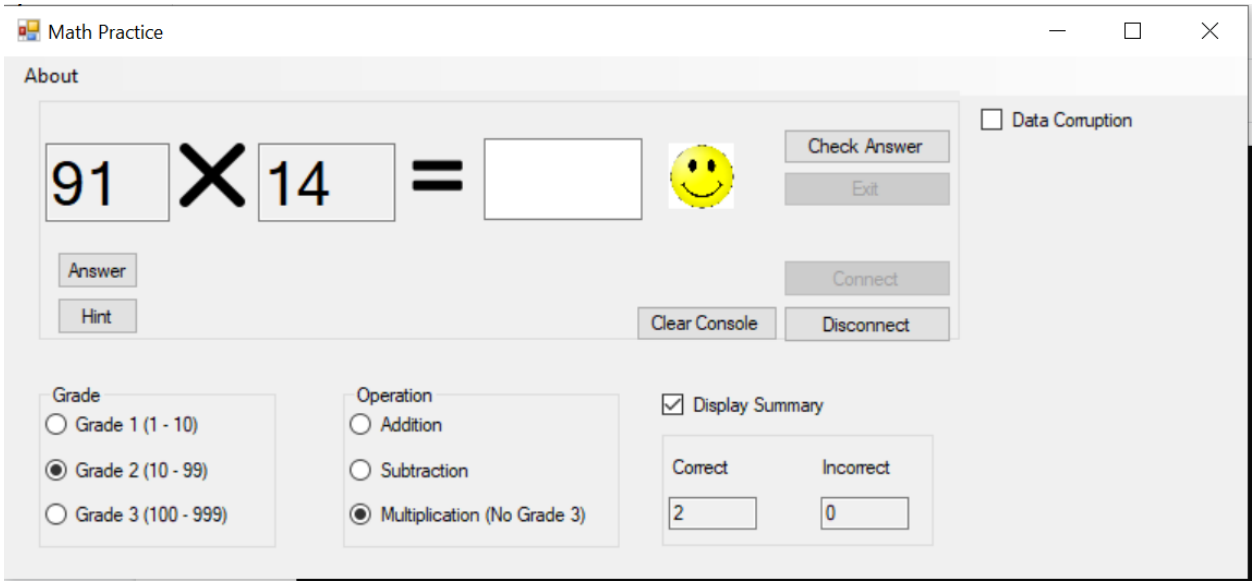
Gui:

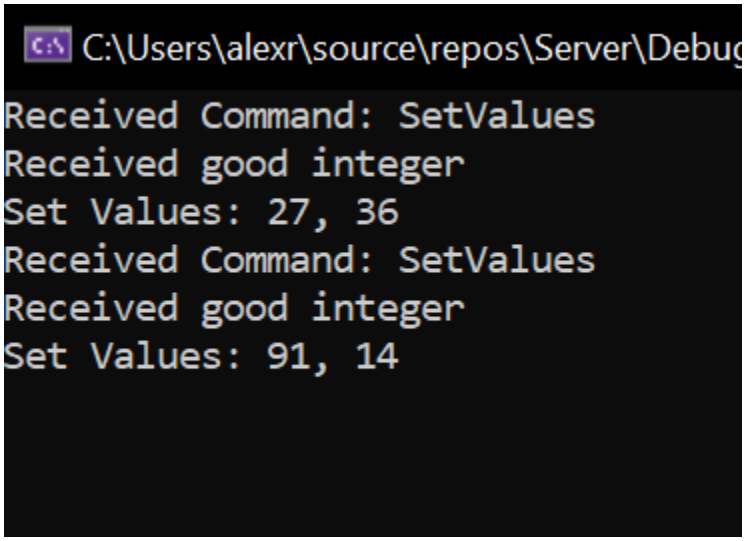


Console:



Switching modes:





All for task 1 seems to work fine. Commands are:

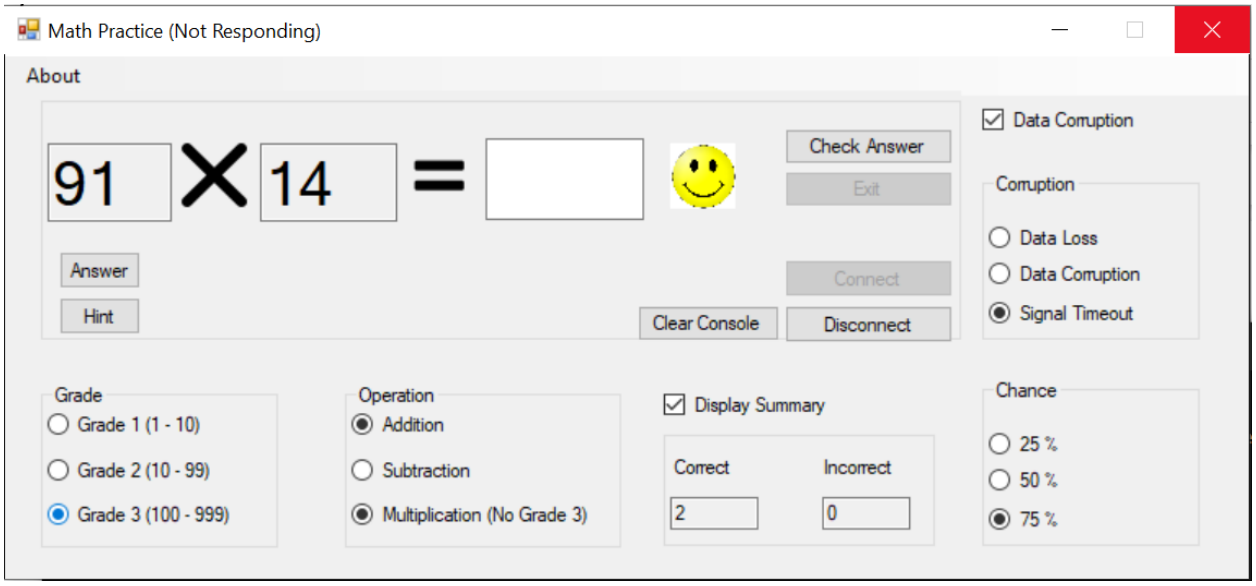
SetValues: set the values based off of the users grade and mode
Add: add two values and return the sum to client
Sub: Subtract two values and return the sum to the client
Mul: Multiply two values and return the sum to the client
Quit: Terminate the connection
ResetConsole: reset the server console

Also handles:

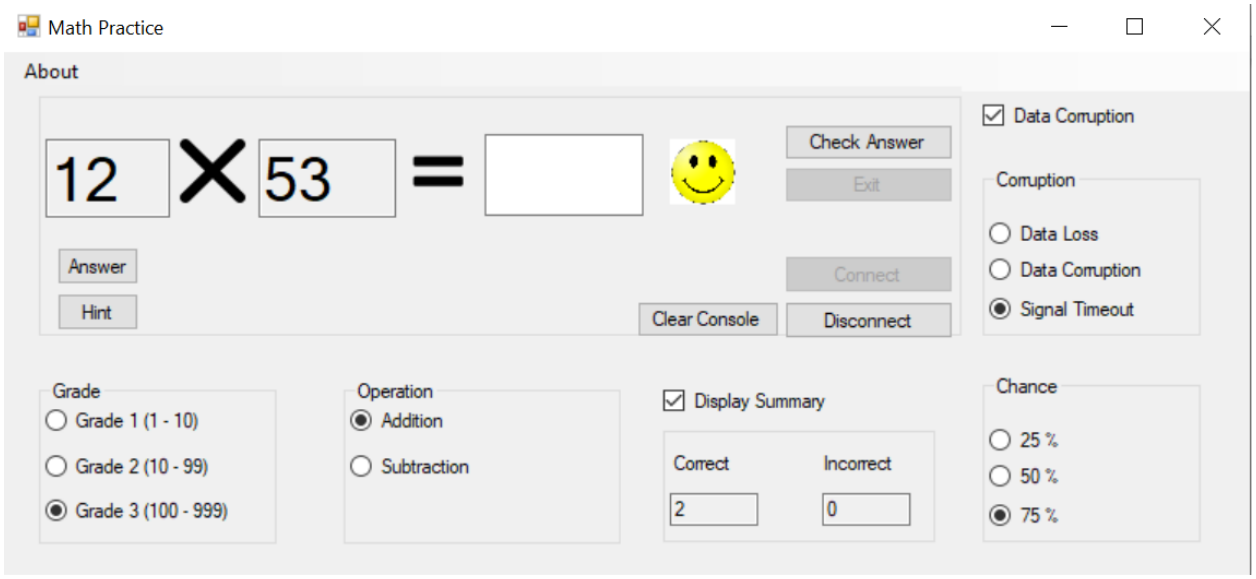
Forceful terminations: program crashes or user abruptly ends

This design seemed the most straightforward and works well with the program.

Corruption Testing:
The signal timeout will be recognized by the server and correctly handled on that end, however the client will stop responding. Termination of the server will however finish the process.

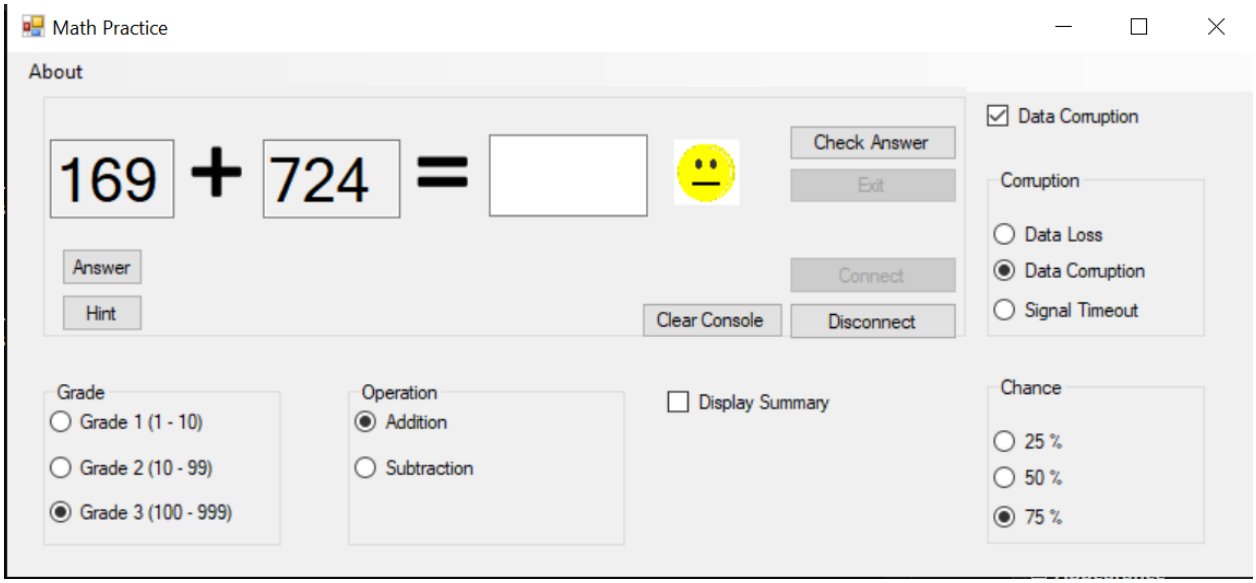


After server termination:

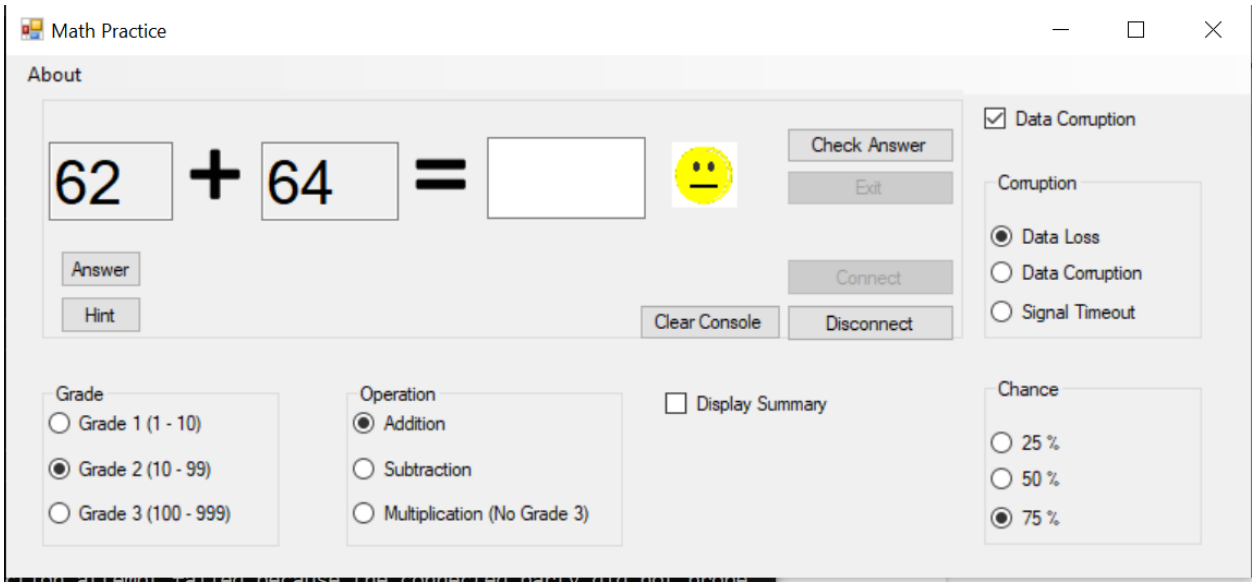


(Program now unusable)
Corruption works fine and so does data loss (known glitch: data corruption option must be used first for data loss to work).

Data corruption setvalues:

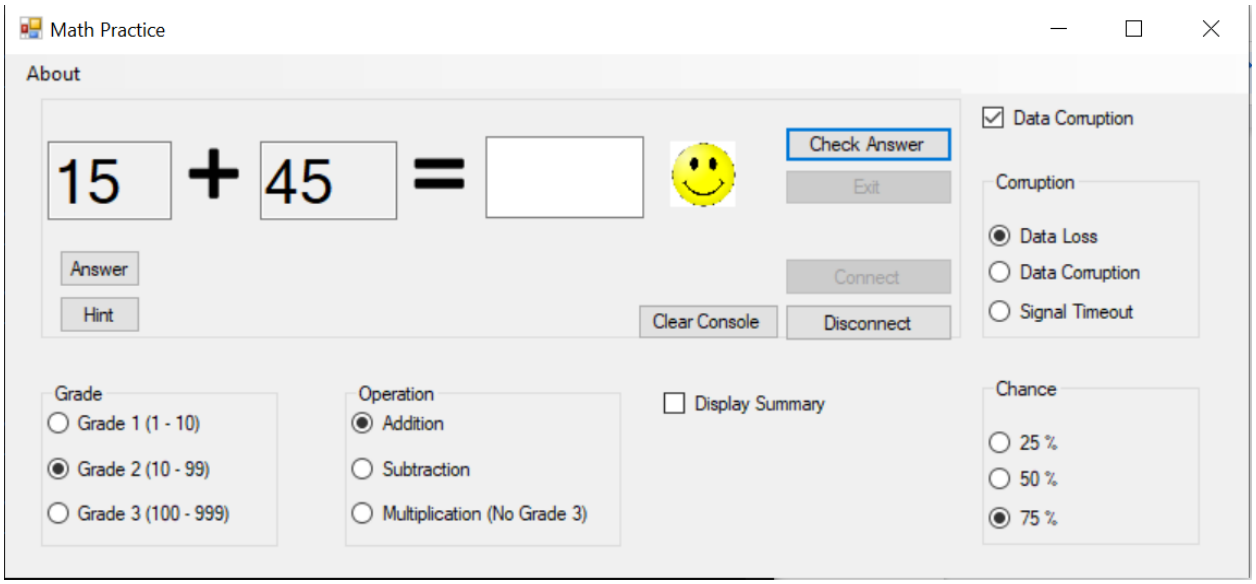


Data Loss set values



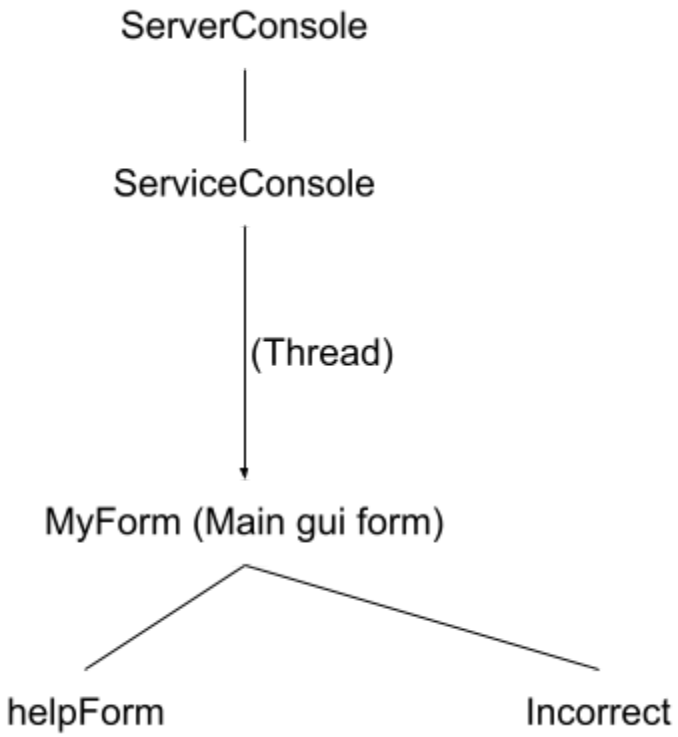

```
Received Command: SetValues
Unable to read data from the transport connection: A connection attempt failed because the connected party did not prope
rly respond after a period of time, or established connection failed because connected host has failed to respond.
Received good integer
Set Values: 478, 358
Received Command: SetValues
Unable to read data from the transport connection: A connection attempt failed because the connected party did not prope
rly respond after a period of time, or established connection failed because connected host has failed to respond.
Received good integer
Set Values: 62, 64
```

Data loss for checking response, hint, and getting answer



```
Received Command: Add
Unable to read data from the transport connection: A connection attempt failed because the connected party did not prope
rly respond after a period of time, or established connection failed because connected host has failed to respond.
Received good integer
Received good integer
62 + 64 = 126
Received Command: Add
Unable to read data from the transport connection: A connection attempt failed because the connected party did not prope
rly respond after a period of time, or established connection failed because connected host has failed to respond.
Received good integer
Unable to read data from the transport connection: A connection attempt failed because the connected party did not prope
rly respond after a period of time, or established connection failed because connected host has failed to respond.
Received good integer
62 + 64 = 126
Received Command: Add
Unable to read data from the transport connection: A connection attempt failed because the connected party did not prope
rly respond after a period of time, or established connection failed because connected host has failed to respond.
Received good integer
Unable to read data from the transport connection: A connection attempt failed because the connected party did not prope
rly respond after a period of time, or established connection failed because connected host has failed to respond.
Received good integer
62 + 64 = 126
Received Command: SetValues
Unable to read data from the transport connection: A connection attempt failed because the connected party did not prope
rly respond after a period of time, or established connection failed because connected host has failed to respond.
Received good integer
Set Values: 15, 45
```

I designed the corruption portion as a separate hidden group box, as it should not be visible unless the user desires. It also allows for selection of corruption type and percentage occurrence, one at a time.



Protocol: Client will send server values, server will verify data integrity and then send back a string verifying the integrity as either “GOOD” or “BAD”.