

## 4.01 Algorithm

### Clues and Assumptions

- Each number represents a single character
- It is most likely not English given that they are aliens. But since it was written by a human technical consultant, it very well could be in English.
- In ASCII, the English alphabet is in numbers between 65 and 122, we need to change the alien values to somewhere in that range if they are going to be translated into a readable format
- I am going to assume that we will use the type conversion “(char)” on the values.

### The Game Plan

- First we should develop as many algorithms as possible.
- We should use many algorithms to decode this message, and then afterwards search through to see if any produced English words.
- After we have found ones with English words in them, we should eliminate the others.
- Then we should search through those messages to find ones with any meaning.
- At this point we will most likely have the final message decoded into English.
- We can then create our reply.

### The algorithms

1. Place each individual number into it's own variable.
2. Go through and convert each variable to type “char”.
3. Print out the message after the conversions are complete.
4. Search through for English words.
5. If none are found, add various operations on to the original message from the aliens ( + , - , / , \* , % ).
6. Do all operations that produce valid ASCII characters.
7. Print out the message and again search for english words.
8. If none are found, try adding more than one operation ( + and \* ), or ( / and - ). Be sure that your compound operations don't cancel ( + and - ).
9. Continue following these steps until an answer is found.
10. Once the answer has been found we should print it out and evaluate what our response should be.
11. Send back our response by undoing all of the steps that we took to translate the message they sent in order to translate our response to their language.

Our Response - -

(Our response will largely be determined by the content of the alien's message)

Dear Aliens,

We come in peace, but for our own safety we have disintegrators pointed at you.

If you wish to come any further, we require you to disable all of your weapons and to send us a message explaining your intent.

Sincerely,

NASA, The UN Security Council, and planet Earth

The End