Build your own Brainf*** interpreter

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We've all seen

```
public class HelloLHD {

  public static void main(String[] args) {
    System.out.println("Hello Local Hack Day");
  }

}
```

This looks different in BF

```
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Very different

Turing complete in 8 instructions

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Sometimes surprisingly powerful

Cat - Java

```
import java.io.InputStreamReader;

import java.io.BufferedReader;

import java.io.IOException;

public class Cat {

  public static void main(String[] args) throws IOException {

  BufferedReader reader = new BufferedReader(new InputStreamReader(System.in));

  String line;

  while ((line = reader.readLine()) != null)

    System.out.println(line);

  }

}
```

Cat - BF

How does it work?

- Operates like a turing machine
- Has a data tape initialised to zeros (may be implemented as an array)
- Has a pointer to the current location on the tape
- Operates on this pointer to interact with the tape and stdio

+-<>

- + Increment value at location of pointer
- - Decrement value at location of pointer
- < Move pointer left
- > Move pointer right

[

[

if value at pointer is zero

 skip until after matching bracket (])

]

]

goto opening bracket ([)

,.

,

read a byte from stdin into cell at pointer

write a byte from cell at pointer to standard out

And now?

- Pull the repo - and try to run the BF programs inside with your own interpreter.
- HelloLHD.b does not need loops - probably best to start here.
- Feel free to ask for help!

https://github.com/reynoldscem/Babfi