Node.js - Introduction

What is Node.js?

Node.js was developed by Ryan Dahl in 2009. The definition of Node.js as is as follows:

Node.js is a platform built on Chrome's JavaScript runtime

for easily building fast and scalable network applications.

Who Uses Node.js?

- eBay
- GoDaddy
- PayPal
- Uber
- Yahoo
- And a lot more…

Node.js - REPL Terminal

Node.js - REPL Terminal

REPL stands for:

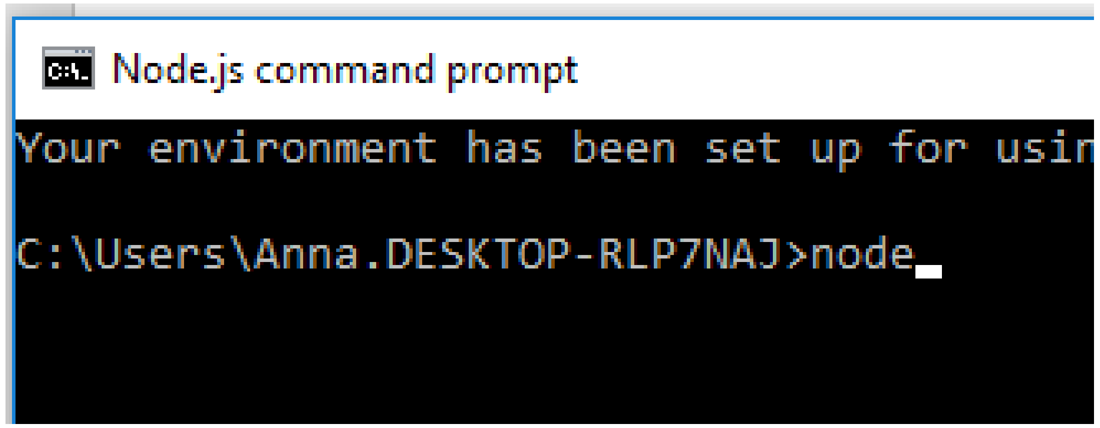
Read **E**val **P**rint **L**oop

It represents a computer environment like a Windows console or Unix/Linux shell where a command is entered and the system responds with an output in an interactive mode.

Starting REPL

Step 1

REPL can be started by simply running node on shell/console without any arguments as follows:



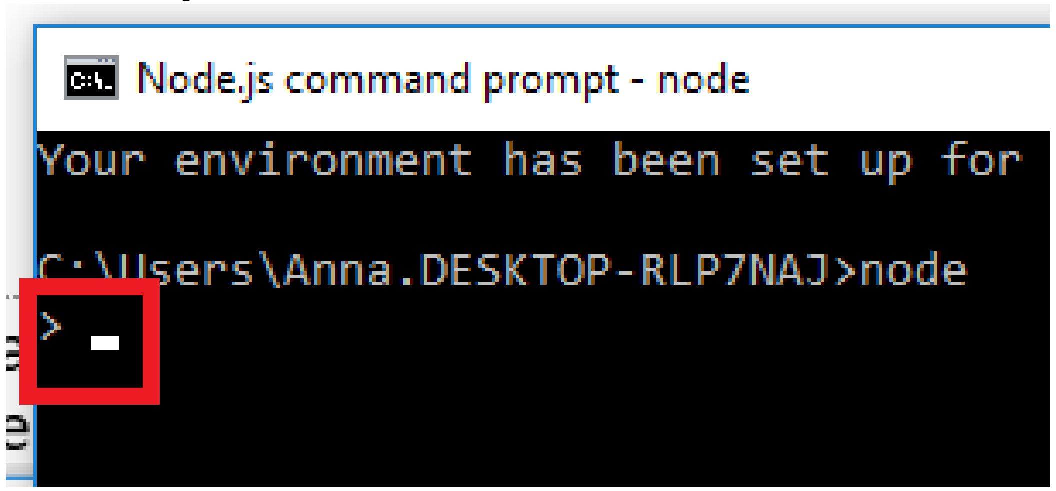
Node.js command prompt

```
Your environment has been set up for usin

C:\Users\Anna.DESKTOP-RLP7NAJ>node_
```

Step 2

You will see the REPL Command prompt > where you can type any Node.js



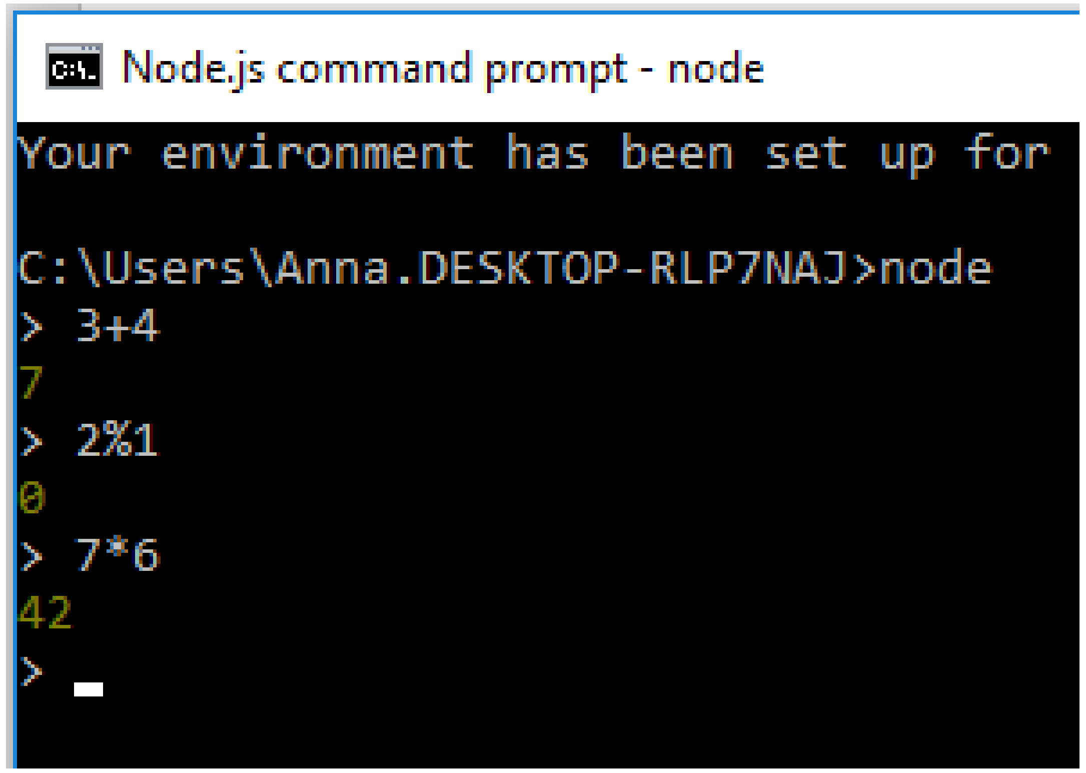
Node.js command prompt - node

```
Your environment has been set up for

C:\Users\Anna.DESKTOP-RLP7NAJ>node
> _
```

Simple Expression

Let's try a simple mathematics at the Node.js REPL command prompt:



Node.js command prompt - node

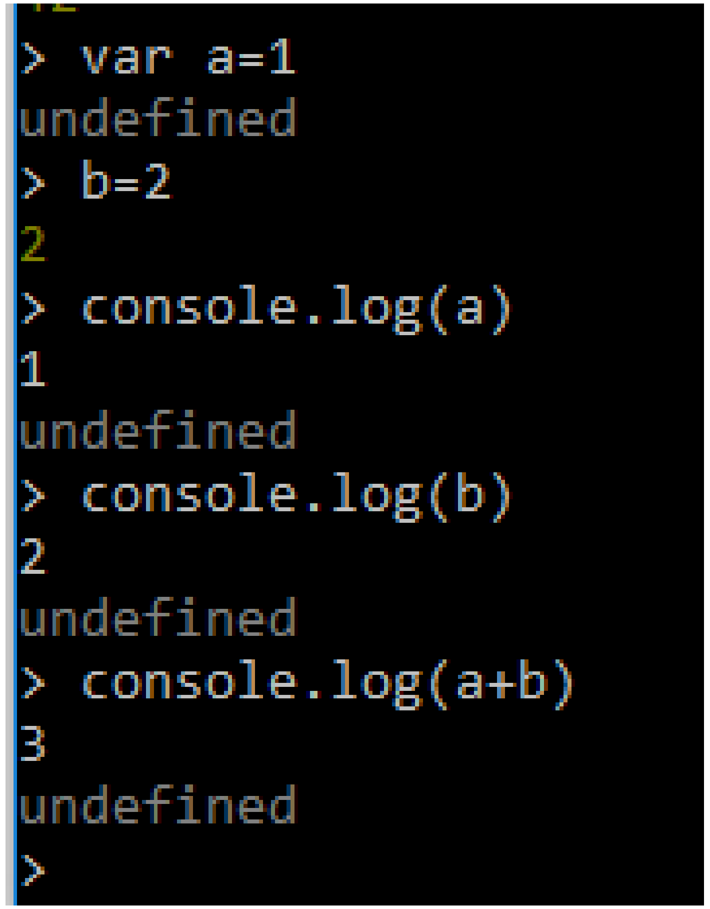
```
Your environment has been set up for

C:\Users\Anna.DESKTOP-RLP7NAJ>node
> 3+4
7
> 2%1
0
> 7*6
42
> 
```

Use Variables

You can make use variables to store values like any conventional script.

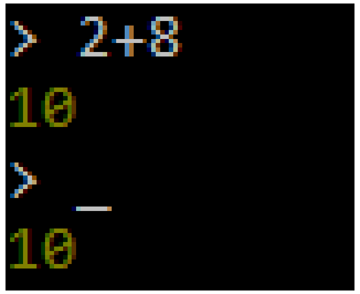
- If **var** keyword is not used, then the value is stored in the variable and printed.
- if **var** keyword is used, then the value is stored but not printed
- You can print variables using **console.log()**.



```
> var a=1
undefined
> b=2
2
> console.log(a)
1
undefined
> console.log(b)
2
undefined
> console.log(a+b)
3
undefined
>
```

Underscore Variable

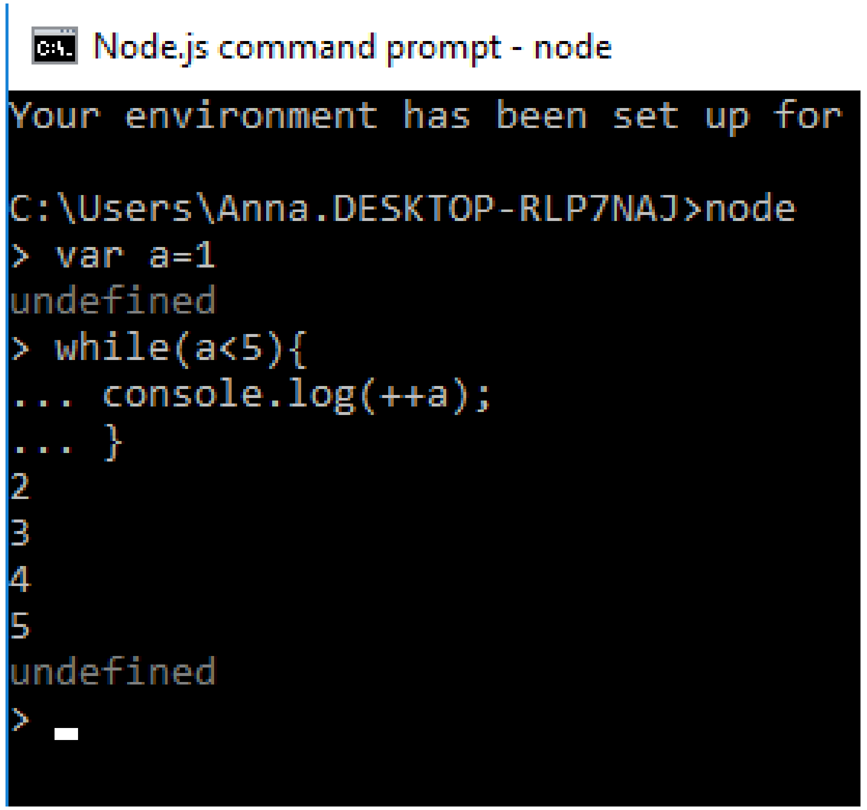
You can use underscore **(_)** to get the last result:



```
> 2+8
10
> _
10
```

Multiline Expression

Node REPL supports multiline expression similar to JavaScript.
... comes automatically when you press Enter after the opening bracket.



```
Your environment has been set up for

C:\Users\Anna.DESKTOP-RLP7NAJ>node
> var a=1
undefined
> while(a<5){
... console.log(++a);
... }
2
3
4
5
undefined
> 
```

REPL Commands

ctrl + c – terminate the current command.

ctrl + c twice – terminate the Node REPL.

ctrl + d – terminate the Node REPL.

Up/Down Keys – see command history

REPL Commands

.break – exit from multiline expression.

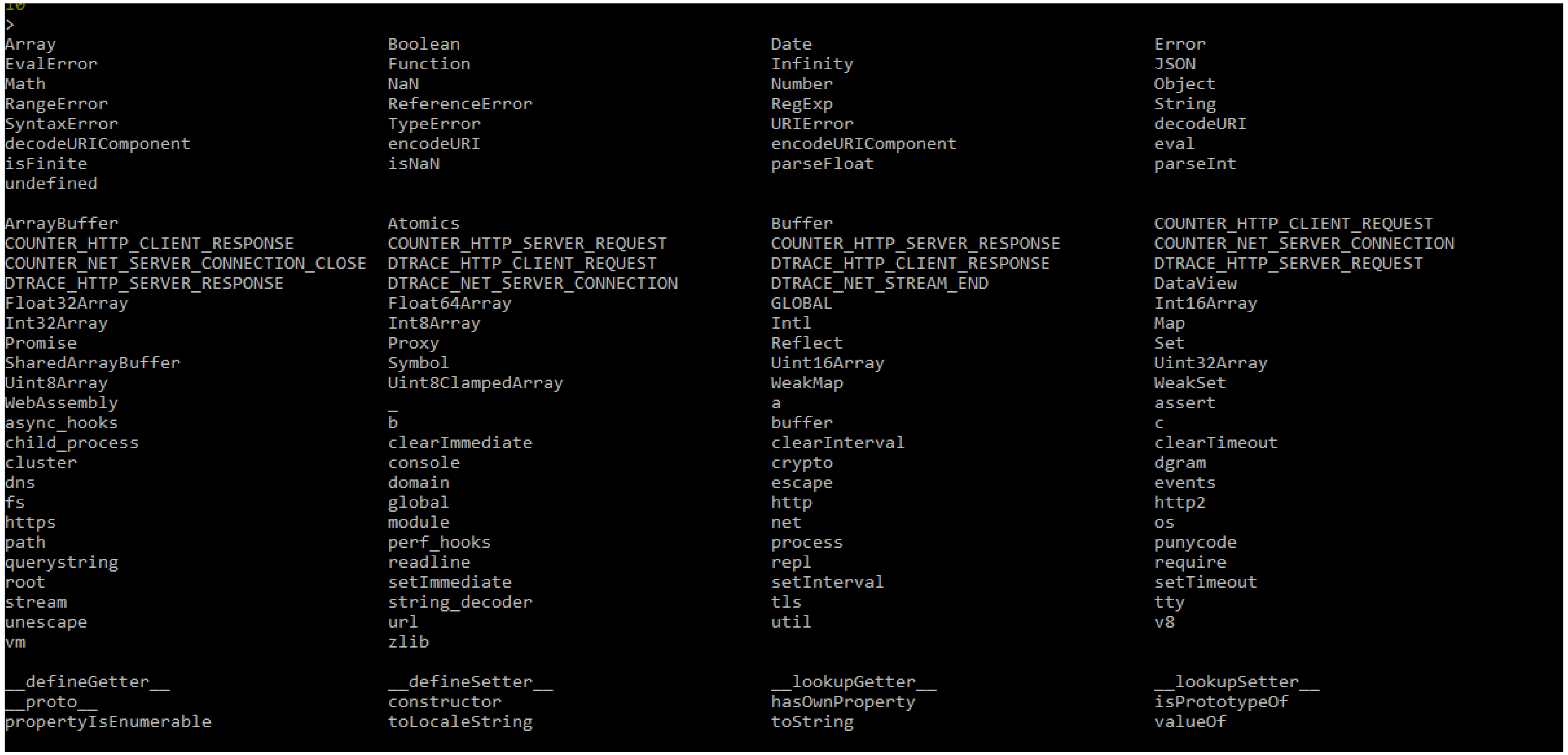
.clear – exit from multiline expression.

.save ***filename*** – save the current Node REPL session to a file.

.load ***filename*** – load file content in current Node REPL session.

REPL Commands

tab Keys – list of current commands.



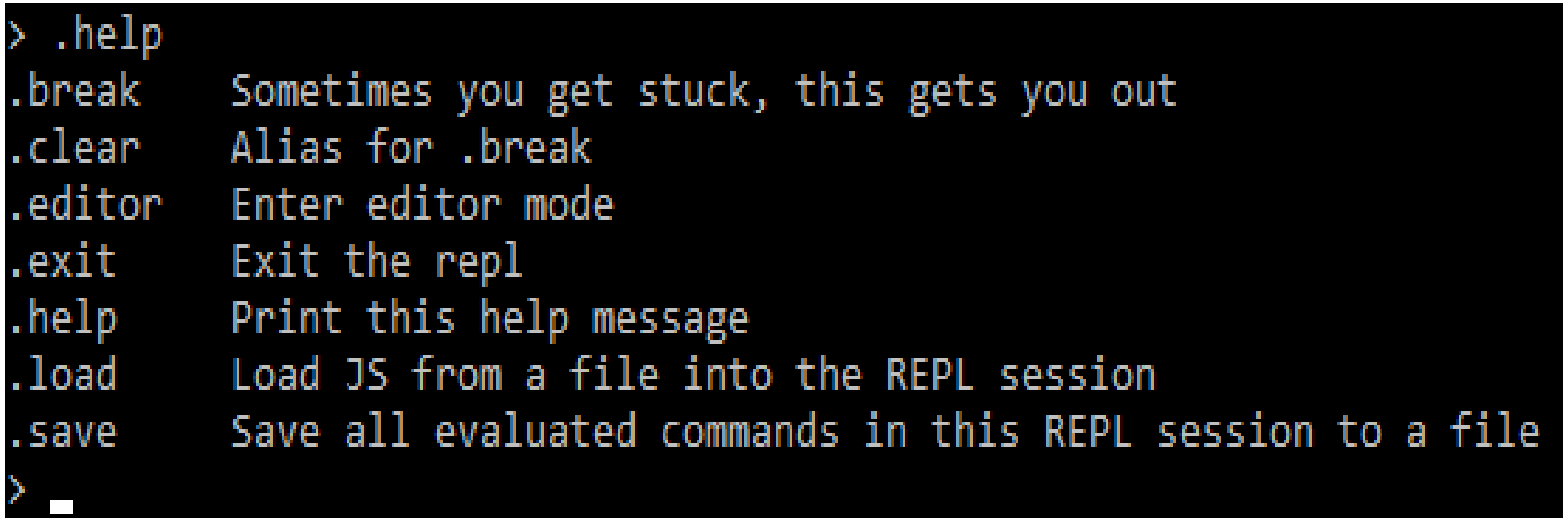
```
10
>
Array                                Boolean                              Date                                 Error
EvalError                            Function                             Infinity                             JSON
Math                                 NaN                                  Number                               Object
RangeError                           ReferenceError                       RegExp                               String
SyntaxError                          TypeError                            URIError                             decodeURI
decodeURIComponent                   encodeURI                            encodeURIComponent                   eval
isFinite                             isNaN                                parseFloat                           parseInt
undefined

ArrayBuffer                          Atomics                              Buffer                               COUNTER_HTTP_CLIENT_REQUEST
COUNTER_HTTP_CLIENT_RESPONSE         COUNTER_HTTP_SERVER_REQUEST          COUNTER_HTTP_SERVER_RESPONSE         COUNTER_NET_SERVER_CONNECTION
COUNTER_NET_SERVER_CONNECTION_CLOSE  DTRACE_HTTP_CLIENT_REQUEST           DTRACE_HTTP_CLIENT_RESPONSE          DTRACE_HTTP_SERVER_REQUEST
DTRACE_HTTP_SERVER_RESPONSE          DTRACE_NET_SERVER_CONNECTION         DTRACE_NET_STREAM_END                DataView
Float32Array                         Float64Array                         GLOBAL                               Int16Array
Int32Array                           Int8Array                            Intl                                 Map
Promise                              Proxy                                Reflect                              Set
SharedArrayBuffer                    Symbol                               Uint16Array                          Uint32Array
Uint8Array                           Uint8ClampedArray                    WeakMap                              WeakSet
WebAssembly                          _                                    a                                    assert
async_hooks                          b                                    buffer                               c
child_process                        clearImmediate                       clearInterval                        clearTimeout
cluster                              console                              crypto                               dgram
dns                                  domain                               escape                               events
fs                                   global                               http                                 http2
https                                module                               net                                  os
path                                 perf_hooks                           process                              punycode
querystring                          readline                             repl                                 require
root                                 setImmediate                         setInterval                          setTimeout
stream                               string_decoder                       tls                                  tty
unescape                             url                                  util                                 v8
vm                                   zlib

__defineGetter__                     __defineSetter__                     __lookupGetter__                     __lookupSetter__
__proto__                            constructor                          hasOwnProperty                       isPrototypeOf
propertyIsEnumerable                 toLocaleString                       toString                             valueOf
```

REPL Commands

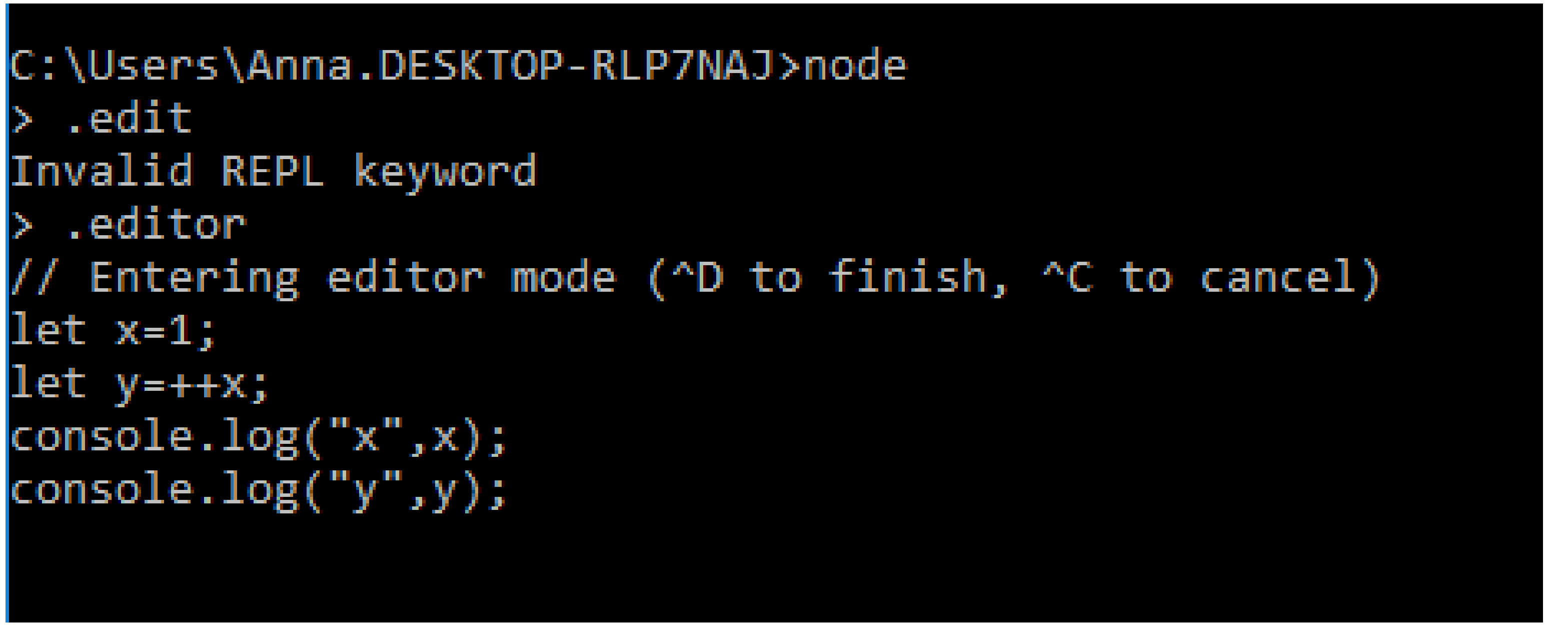
.help – list of all commands.



```
> .help
.break    Sometimes you get stuck, this gets you out
.clear    Alias for .break
.editor   Enter editor mode
.exit     Exit the repl
.help     Print this help message
.load     Load JS from a file into the REPL session
.save     Save all evaluated commands in this REPL session to a file
> 
```

REPL Commands

.editor - Enter editor mode

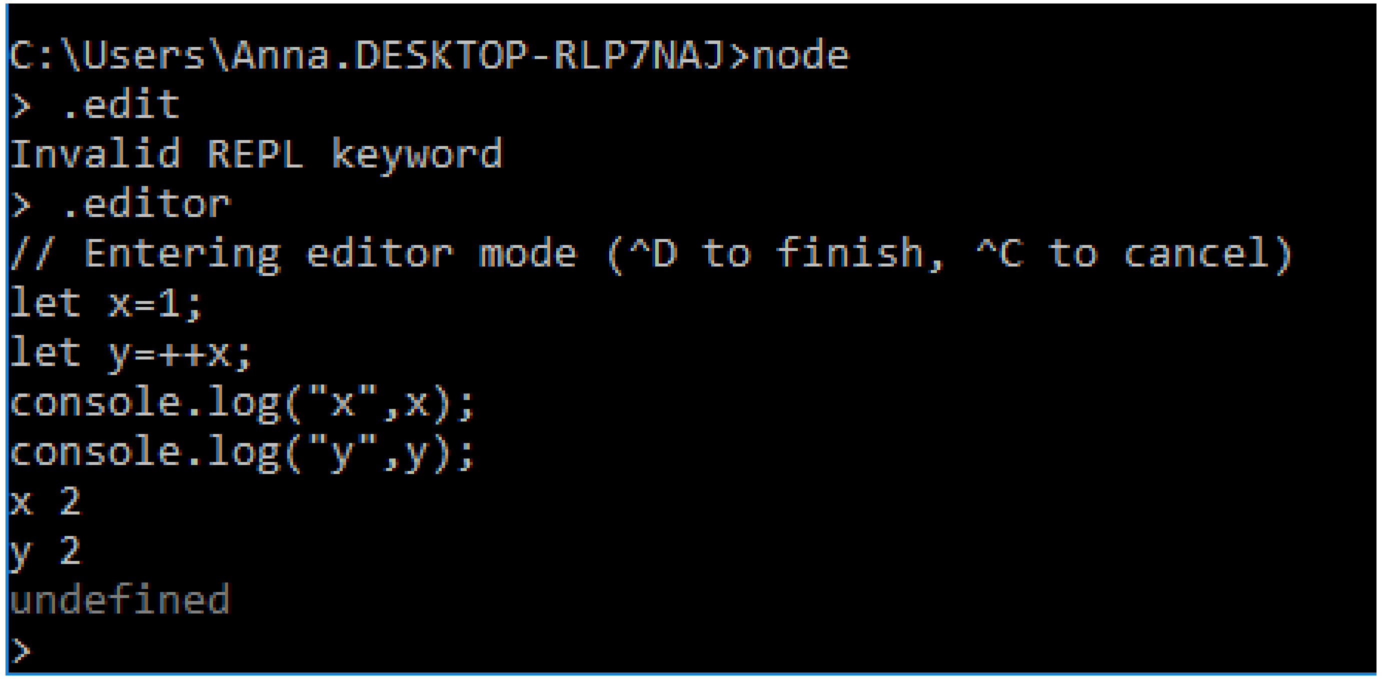


```
C:\Users\Anna.DESKTOP-RLP7NAJ>node
> .edit
Invalid REPL keyword
> .editor
// Entering editor mode (^D to finish, ^C to cancel)
let x=1;
let y=++x;
console.log("x",x);
console.log("y",y);
```

REPL Commands

- <ctrl>-C - cancel command.
- <ctrl>-D - finish command.

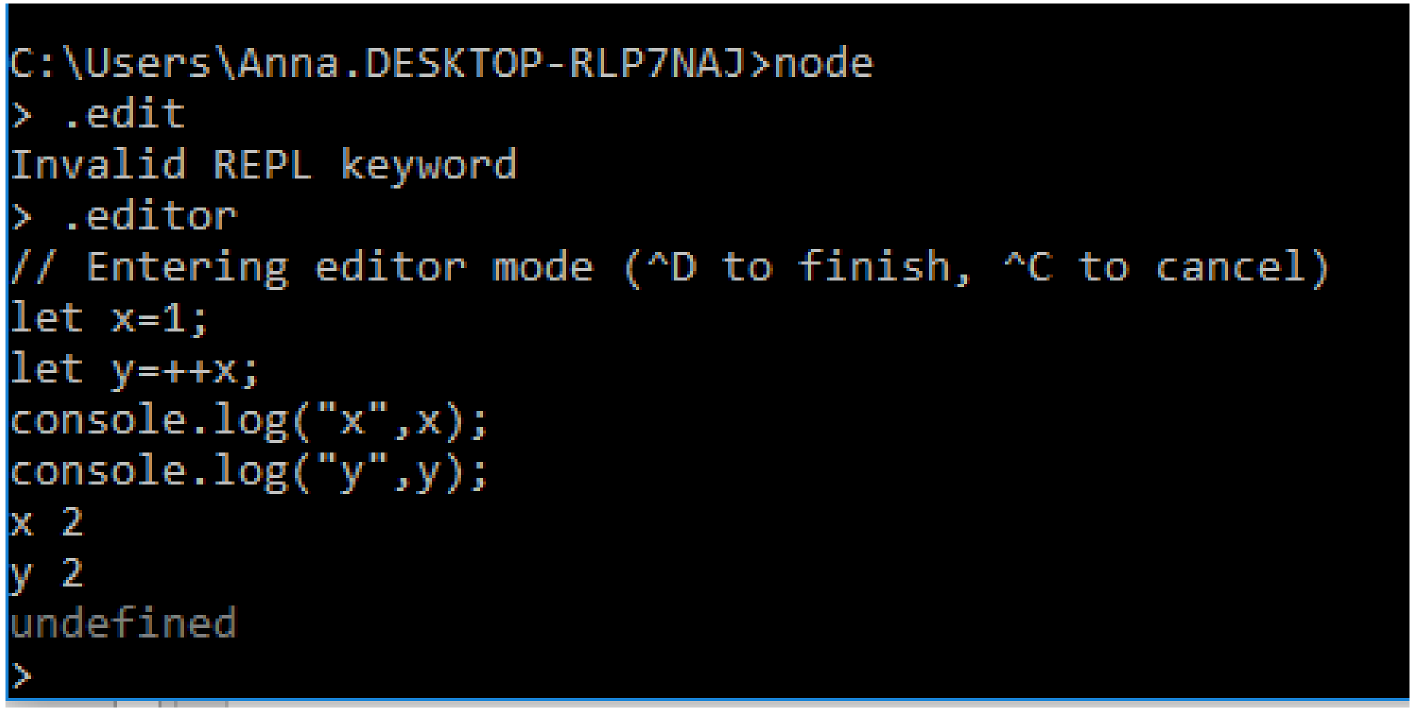
After pressing control + D



```
C:\Users\Anna.DESKTOP-RLP7NAJ>node
> .edit
Invalid REPL keyword
> .editor
// Entering editor mode (^D to finish, ^C to cancel)
let x=1;
let y=++x;
console.log("x",x);
console.log("y",y);
x 2
y 2
undefined
>
```

Stopping REPL

use **ctrl-c twice** to come out of Node.js REPL.



```
C:\Users\Anna.DESKTOP-RLP7NAJ>node
> .edit
Invalid REPL keyword
> .editor
// Entering editor mode (^D to finish, ^C to cancel)
let x=1;
let y=++x;
console.log("x",x);
console.log("y",y);
x 2
y 2
undefined
>
```