TSD

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TSD

- type testing - what is this?
- agenda

  - testing types manually

Types? Tests?

- is there any problems with types?
- no, types are great let's use them everywhere

Tests

- please engage your fantasy
- plain and simple: function + test
- what can go still wrong?

  - (focus on the types)

Tests - Without Type

- we change the functions type signature
- test is still green
- of course, the type signature is not part of the test

  - any idea to fix this?
  - does this even need fixing?

5/16 Tests - Including the Type

- does detect our breaking change? **ask** => nooo
- why? **wait** => subtyping!

6/16 Excourse: Subtyping

- tsc only cares about assignability (remember: structural typing)
- subtyping means we can assign in one direction but not the other

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7/16 Tests - Including the Type

- now back to the made up test
- what to change? **wait**

8/16 Tests - Including the **exact** Type

- make sure the reverse assignment is also true
- that's it?

9/16 Tests - Recap

- make sure the reverse assignment is also true
- that's it?
- now we need tooling

10/16 That Same Test with TSD

- separate test command
- specific expects to work with types

    - check that expresssions generate errors
    - check for hard equalness or just assignability

- nice console reports

11/16 Thanks for listening

- thats it

12/16 Haha not yet

- ts builtin
- ts can create new types
- aka type level programming

13/16 Real world type test

- easy to write
- keep complex types managable

14/16 Real world type test 2 - modifying the Partial type

- hardly readable any more

15/16 Real world type test 2 - modifying the Partial type

- but the test is still readable

16/16 Cheers

- typescript is an awesome ecosystem
- this support for type-level programming is huge
- maintain support for types across tsc releases