After the latest changes in removing the internal

and open

keywords from Noir, we now have the following situation when it comes to function types:

- # [aztec(private)]

: Private constrained functions

- # [aztec(public)]

: Public constrained functions

- # [aztec(internal)]

: Functions only callable via an aztec function call from the same contract (used with either of the two above)

- # [contract-library-method]

: Constrained functions that are inlined

- unconstrained

(no attribute): Unconstrained query functions

- no attribute: Defaults to a private function, where the inputs and public inputs are set manually. Should not be used.

The last three are the most confusing. We have “external” functions that do not need an attribute (unconstrained query), we have an attribute that few people know exists (contract-library-method), and the default setting of not writing anything is basically a mistake.

I propose the following changes:

- All functions with no aztec(*)

attributes act as inlined helpers (ie what was contract-library-method

). This means that, by default, functions are not callable via an Aztec contract function call.

- We introduce the #[aztec(query)]

macro to signal query methods. We force that these are annotated with unconstrained

so it’s clear to devs. Flagging a non-unconstrained with aztec(query)

is a compilation error.

So the result would be the following, with changes from original in bold:

- # [aztec(private)]

: Private constrained functions

- # [aztec(public)]

: Public constrained functions

- # [aztec(internal)]

: Functions only callable via an aztec function call from the same contract (used with either of the two above)

- # [aztec(query)]

: Unconstrained query function (requires unconstrained

)

- unconstrained

(no attribute): Unconstrained helper function that is inlined

- no attribute: Constrained helper function that is inlined

Eventually we may be able to remove aztec(query)

altogether, in favor of new simulation and calling methods. But for now, I think this setup is clearer. Thoughts?