hack.ast.reg

The Registers.

There are three registers for the hack machine are given below.

- The address register `A`,
- The data register `D`, and
- The virtual `M` which is an alias to the memory word stored at the address in `A`.

```
Variant t := A | D | M.
```

The `AOrM` subtype of registers

Certain operands are allowed to only be either `A` or `M` and this is captured by the subset type below. Together with the coercion `toreg`, it makes it possible to use a values of type `AOrM` in places of values of type `reg.t`

```
Definition AOrM := {x : t | x = A \/ x = M}.
Definition toreg (aom : AOrM) : t := proj1_sig aom.
Coercion toreg : AOrM >-> reg.t.
```

Aliases for the `A` and `M` registers. Use this alias when you need to use the `A` or `M` registers but as values of type `AOrM`.

```
Program Definition a : AOrM := exist _ A _.
Program Definition m : AOrM := exist _ M _.
```

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