PrettyPrinting Optimal layout for code and data

https://github.com/MechanicalRabbit/PrettyPrinting.jl

Kyrylo Simonov

```
julia> print(["Hello", "World"])
["Hello", "World"]
```

```
julia> print(["Hello", "World"])
["Hello", "World"]
```

```
julia> show(["Hello", "World"])
["Hello", "World"]
```

```
julia> print(["Hello", "World"])
["Hello", "World"]
```

```
julia> show(["Hello", "World"])
["Hello", "World"]
```

```
julia> display(["Hello", "World"])
2-element Vector{String}:
   "Hello"
   "World"
```

```
julia> print(["Hello", "World"])
["Hello", "World"]
```

```
julia> show(["Hello", "World"])
["Hello", "World"]
```

```
julia> display(["Hello", "World"])
2-element Vector{String}:
    "Hello"
    "World"
```

```
julia> dump(["Hello", "World"])
Array{String}((2,))
1: String "Hello"
2: String "World"
```

```
julia> print(["Hello", "World"])
                                              julia> show(["Hello", "World"])
["Hello", "World"
                  julia> using PrettyPrinting
                  julia> pprint(["Hello", "World"])
                  ["Hello", "World"]
julia> display()
                                                             ello", "World"])
2-element Vector
 "Hello"
                                                1: String "Hello"
 "World"
                                                2: String "World"
```

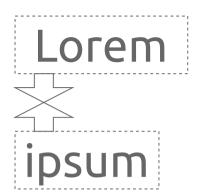
```
$ cat Project.toml
name = "FunSQL"
uuid = "cf6cc811-59f4-4a10-b258-a8547a8f6407"
authors = ["Kirill Simonov <xi@resolvent.net>", "Clark C. Evans <cce@clarkevans.com>"]
version = "0.6.0"
[deps]
Dates = "ade2ca70-3891-5945-98fb-dc099432e06a"
PrettyPrinting = "54e16d92-306c-5ea0-a30b-337be88ac337"
[compat]
julia = "1.4"
PrettyPrinting = "0.3.2"
```

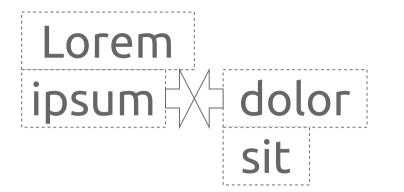
julia> TOML.parsefile("Project.toml") |> show Dict{String, Any}("deps" => Dict{String, Any}("Dates" => "ade2ca7 0-3891-5945-98fb-dc099432e06a", "PrettyPrinting" => "54e16d92-306 c-5ea0-a30b-337be88ac337"), "name" => "FunSQL", "uuid" => "cf6cc8 11-59f4-4a10-b258-a8547a8f6407", "compat" => Dict{String, Any}("julia" => "1.4", "PrettyPrinting" => "0.3.2"), "authors" => ["Kiri ll Simonov <xi@resolvent.net>", "Clark C. Evans <cce@clarkevans.c</pre>

om>"], "version" => "0.6.0")

julia> TOML.parsefile("Project.toml") |> show Dict{String, Any}("deps" => Dict{String, Any}("Dates" => "ade2ca7 0-3891-5945-98fb-dc099432e06a", "PrettyPrinting" => "54e16d92-306 c-5ea0-a30b-337be88ac337"), "name" => "FunSQL", "uuid" => "cf6cc8 11-59f4-4a10-b258-a8547a8f6407", "compat" => Dict{String, Any}("j ulia" => "1.4", "PrettyPrinting" => "0.3.2"), "authors" => ["Kiri ll Simonov <xi@resolvent.net>", "Clark C. Evans <cce@clarkevans.c om>"], "version" => "0.6.0")

```
julia> TOML.parsefile("Project.toml") |> show
Dict{String, Any}("deps" => Dict{String, Any}("Dates" => "ade2ca7")
0-3891-5945-98fb-dc099432e06a", "PrettyPrinting" => "54e16d92-306
 julia> TOML.parsefile("Project.toml") |> pprint
Dict("deps" => Dict("Dates" =>
                         "ade2ca70-3891-5945-98fb-dc099432e06a",
                     "PrettyPrinting" =>
                         "54e16d92-306c-5ea0-a30b-337be88ac337"),
      "name" => "FunSQL",
      "uuid" => "cf6cc811-59f4-4a10-b258-a8547a8f6407",
      "compat" => Dict("julia" => "1.4",
                       "PrettyPrinting" => "0.3.2"),
      "authors" => ["Kirill Simonov <xi@resolvent.net>",
                    "Clark C. Evans <cce@clarkevans.com>"],
      "version" => "0.6.0")
   compat" => Dict{String, Any}("julia"=>"1.4", "PrettyPrinting...
  "authors" => ["Kirill Simonov <xi@resolvent.net>", "Clark C. E...
  "version" => "0.6.0"
```







```
julia> PrettyPrinting.tile("julia" => "1.4")
(literal("\"julia\"") * literal(" => ") |
  literal("\"julia\"") * literal(" =>") / indent(4)) *
  literal("\"1.4\"")
```

```
"julia" ·=> or "julia" ·=> "1.4"
```

Phillip Yelland, A New Approach to Optimal Code Formatting, 2016

Supported data types:

- Tuple
- NamedTuple
- Vector
- Set
- Dict
- Expr

Supported data types:

- Tuple
- NamedTuple
- Vector
- Set
- Dict
- Expr

julia> Pkg.project()

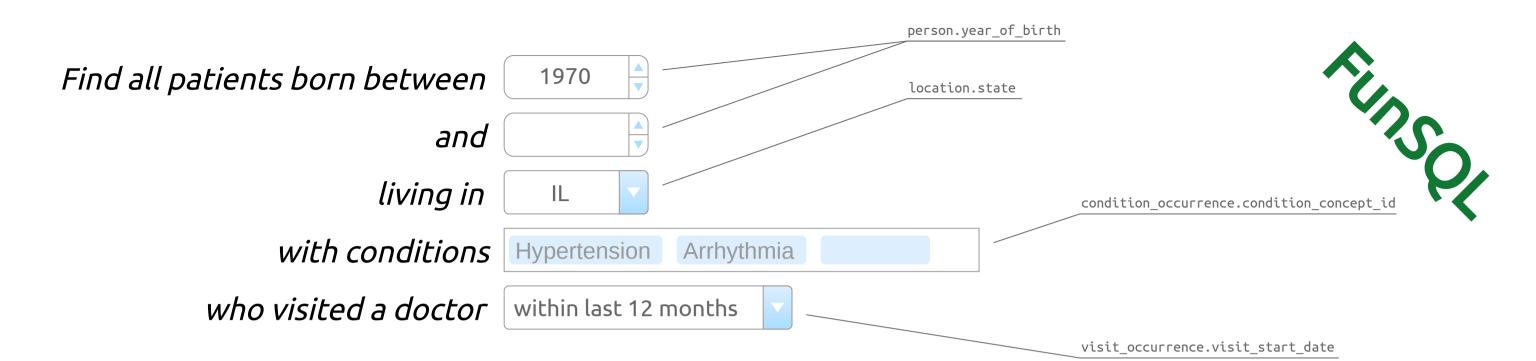
Pkg.API.ProjectInfo("FunSQL", UUID("cf6cc811-59f4-4a10-b258-a8547
a8f6407"), v"0.6.0", true, Dict{String, Base.UUID}("Dates" => UUI
D("ade2ca70-3891-5945-98fb-dc099432e06a"), "PrettyPrinting" => UU
ID("54e16d92-306c-5ea0-a30b-337be88ac337")), "/home/xi/Mechanical
Rabbit/FunSQL.jl/Project.toml")

```
julia> Pkg.project()
Pkg.API.ProjectInfo("FunSQL", UUID("cf6cc811-59f4-4a10-b258-a8547
a8f6407"), v"0.6.0", true, Dict{String, Base.UUID}("Dates" => UUI
D("ade2ca70-3891-5945-98fb-dc099432e06a"), "PrettyPrinting" => UU
ID("54e16d92-306c-5ea0-a30b-337be88ac337")), "/home/xi/Mechanical
Rabbit/FunSQL.jl/Project.toml")
```

```
PrettyPrinting.quoteof(info::Pkg.API.ProjectInfo) =
     :(Pkg.API.ProjectInfo(name = $(info.name),
                           uuid = $(info.uuid),
                           version = $(info.version),
                           ispackage = $(info.ispackage),
                           dependencies = $(info.dependencies).
julia> Pkg.project() |> pprint
Pkg.API.ProjectInfo(
   name = "FunSQL",
    uuid = UUID("cf6cc811-59f4-4a10-b258-a8547a8f6407"),
   version = v"0.6.0",
    ispackage = true,
    dependencies =
        Dict("Dates" =>
                 UUID("ade2ca70-3891-5945-98fb-dc099432e06a"),
             "PrettyPrinting" =>
                 UUID("54e16d92-306c-5ea0-a30b-337be88ac337")),
    path = "/home/xi/MechanicalRabbit/FunSQL.jl/Project.toml")
```

```
Base.show(io::I0, ::MIME"text/plain", info::Pkg.API.ProjectInfo) =
    pprint(io, info)
```

```
julia> Pkg.project()
Pkg.API.ProjectInfo(
   name = "FunSQL",
    uuid = UUID("cf6cc811-59f4-4a10-b258-a8547a8f6407"),
   version = v"0.6.0",
   ispackage = true,
    dependencies =
        Dict("Dates" =>
                 UUID("ade2ca70-3891-5945-98fb-dc099432e06a"),
             "PrettyPrinting" =>
                 UUID("54e16d92-306c-5ea0-a30b-337be88ac337")),
    path = "/home/xi/MechanicalRabbit/FunSQL.jl/Project.toml")
```



```
FindPatients(; start year = nothing, end year = nothing,
               state = nothing,
               condition concents - []
             julia> FindPatients(start year = 1970, state = "IL") |> render
    From(p/
             ERROR: GetError: cannot find locatin_id in:
    Filter
             let person = SQLTable(:person, ...),
    Filter
                 location = SQLTable(:location, ...),
    Filter
                 q1 = From(person),
    Filter
                 q2 = q1 |> Where(Fun.">="(Get.year_of_birth, Lit(1970))),
    Select
                 q3 = From(location),
                 q4 = q3 |> Where(Fun."=="(Get.state, Lit("IL"))),
                 q5 = q2 >
                      Join(q4 |> As(:location),
                           Fun."=="(Get.location_id,
                                     Get.location.locatin_id)),
                 q6 = q5 |> Select(Get.person_id)
                 q6
             end
```