YAML Considered Harmful

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elastic

Edgar Dijkstra: Go To Statement Considered Harmful

YAML

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Key Words and Phrases: go to statement, jump instruction, branch instruction, conditional clause, alternative clause, repetitive clause, program intelligibility, program sequencing
CR Categories: 4.22, 5.23, 5.24

EDITOR:

For a number of years I have been familiar with the observation that the quality of programmers is a decreasing function of the density of **go to** statements in the programs they produce. More recently I discovered why the use of the **go to** statement has such [illegible] effects, [illegible] the **go to** statement should be abolished from all "hig[illegible]el" programming languages (i.e. everything except, perhaps, [illegible]). At that time I did not attach too much importance to this discovery; I now submit my considerations for publication because in very recent discussions in which the subject turned up, I have been urged to do so.

My first remark is that, although the programmer's activity ends when he has constructed a correct program, the process

https://homepages.cwi.nl/~storm/teaching/reader/Dijkstra68.pdf

dynamic progress is only characterized when we also g
call of the procedure we refer. With the inclusion of
we can characterize the progress of the process via a
textual indices, the length of this sequence being e
dynamic depth of procedure calling.

Let us now consider repetition clauses (like, **while**
or **repeat** *A* **until** *B*). Logically speaking, such clau
superfluous, because we can express repetition with
recursive procedures. For reasons of realism I don't
clude them: on the one hand, repetition clauses ca
mented quite comfortably with present day finite eq
[illegible] known as
[illegible]akes us well equipped to retain our intellectual g
processes generated by repetition clauses. With the
the repetition clauses textual indices are no longer
describe the dynamic progress of the process. With eac
a repetition clause, however, we can associate a so
namic index," inexorably counting the ordinal nu
corresponding current repetition. As repetition clau
procedure calls) may be applied nestedly, we find t

Why YAML?

Human readable
Comments

Whitespace Sensitive

It depends

Issues

http://www.yamllint.com

```
ports:
  - 80:80
  - 20:20
```

Issues

https://docs.docker.com/compose/compose-file/#short-syntax-1

```
ports:
  - "80:80"
  - 73200
```

Issues

```
countries:
  - DE
  - FR
  - GB
  - IE
  - NO
  - PT
```

Issues

```
firstname: Philipp
surname: Null
```

Issues

```
windows_drive: c:
version: 1.0
```

Abuse

Behavior instead of data

Gitlab

Deploying itself in 1,100+ lines

https://gitlab.com/gitlab-org/gitlab-ce/blob/master/.gitlab-ci.yml

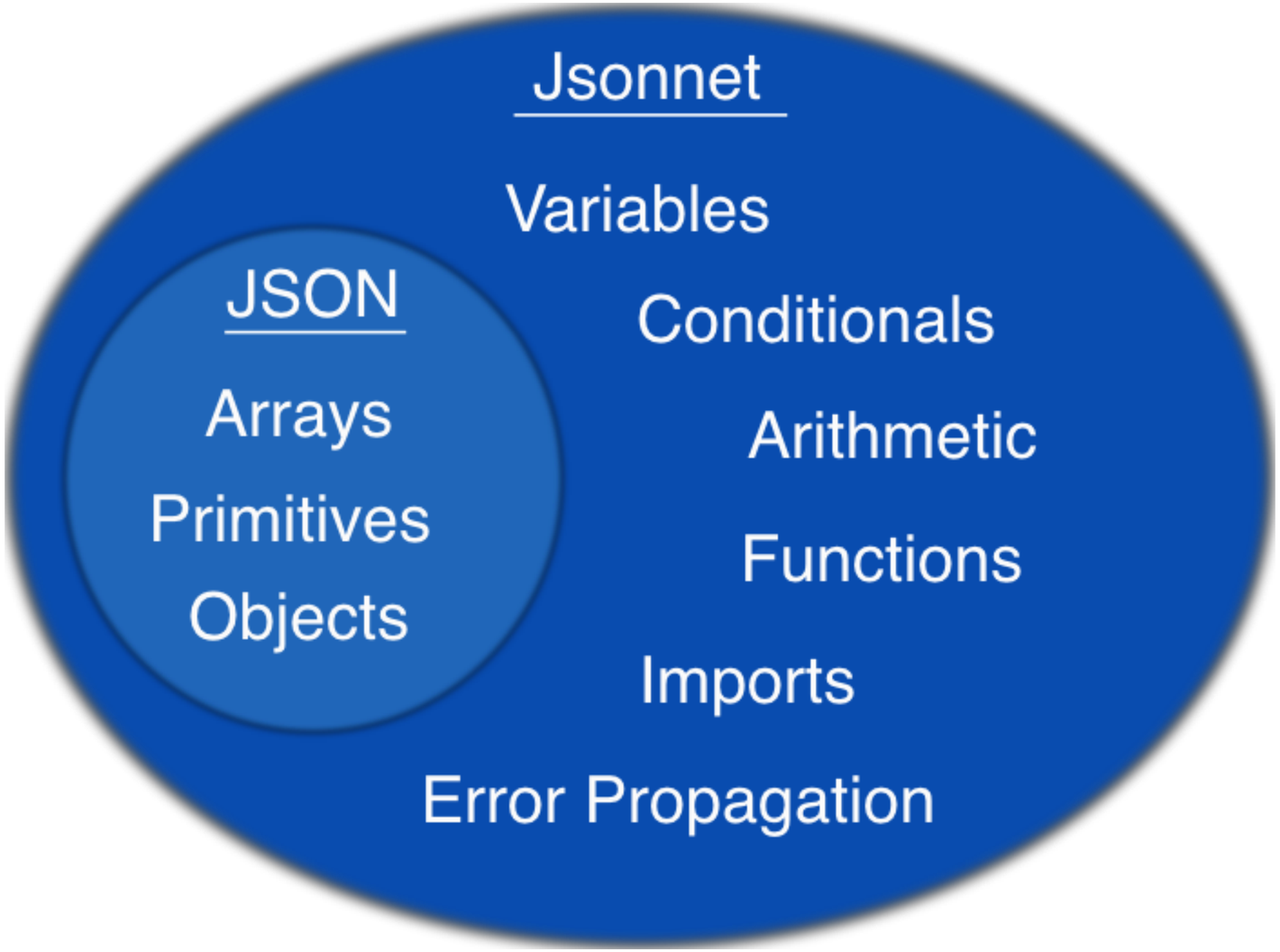
```
package-and-qa:
  image: ruby:2.5-alpine
  stage: test
  before_script: []
  dependencies: []
  cache: {}
  variables:
    GIT_DEPTH: "1"
    API_TOKEN: "${GITLAB_BOT_MULTI_PROJECT_PIPELINE_POLLING_TOKEN}"
  retry: 0
  script:
    - apk add --update openssl curl jq
    - gem install gitlab --no-document
    - source ./scripts/review_apps/review-apps.sh
    - wait_for_job_to_be_done "gitlab:assets:compile"
    - ./scripts/trigger-build omnibus
  when: manual
  only:
    - /.+/@gitlab-org/gitlab-ce
    - /.+/@gitlab-org/gitlab-ee
```

Helm Templates

```
apiVersion: v1
kind: ConfigMap
metadata:
  name: {{ .Release.Name }}-configmap
  labels:
    {{- include "mychart.app" . | nindent 4 }}
data:
  myvalue: "Hello World"
  {{- range $key, $val := .Values.favorite }}
  {{ $key }}: {{ $val | quote }}
  {{- end }}
  {{- include "mychart.app" . | nindent 2 }}
```

If you want a DSL, use a DSL

Or Maybe Jsonnet



Alternative Data Format: XML

```xml
<?xml version="1.0" encoding="UTF-8" ?>
    <!--Last modified 1 April 2001 by John Doe-->
    <title>XML Example</title>
    <owner>
        <name>John Doe</name>
    </owner>
    <database>
        <server>192.168.1.1</server>
        <ports>
            <port>8001</port>
            <port>8002</port>
            <port>8003</port>
        </ports>
    </database>
    <servers>
        <server name="alpha">
            <ip>10.0.0.1</ip>
            <dc>eqdc10</dc>
        </server>
        <server name="beta">
            <ip>10.0.0.2</ip>
            <dc>eqdc10</dc>
        </server>
    </servers>
```

Alternative Data Format: JSON

```
{
  "_comment": "Last modified 1 April 2001 by John Doe",
  "title": "JSON Example",

  "owner": {
    "name": "John Doe"
  },

  "database": {
    "server": "192.168.1.1",
    "ports": [ 8001, 8002, 8003 ]
  },

  "servers": {
    "alpha": {
      "ip": "10.0.0.1",
      "dc": "eqdc10"
    },
    "beta": {
      "ip": "10.0.0.2",
      "dc": "eqdc10"
    }
  }
}
```

Alternative Data Format: INI

```
; Last modified 1 April 2001 by John Doe
[owner]
name=John Doe
organization=Acme Widgets Inc.

[database]
; use IP address in case network name resolution is not working
server=192.168.1.1
port=8001

[servers]
serverAlphaIp=10.0.0.1
serverAlphaDc=eqdc10

serverBetaIp=10.0.0.2
serverBetaDc=eqdc10
```

Alternative Data Format: TOML

```
# Last modified 1 April 2001 by John Doe
title = "TOML Example"

[owner]
name = "John Doe"
dob = 1970-01-01T01:00:00-02:00 # First class dates

[database]
server = "192.168.1.1"
ports = [ 8001, 8002, 8003 ]

[servers]
  [servers.alpha]
  ip = "10.0.0.1"
  dc = "eqdc10"

  [servers.beta]
  ip = "10.0.0.2"
  dc = "eqdc10"
```

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