Rq1: Performance of VSAT as variants grow

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When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

libraries:

```
library(ggplot2)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(cowplot)
```

```
##
## ************************************************************

## Note: As of version 1.0.0, cowplot does not change the

##   default ggplot2 theme anymore. To recover the previous

##   behavior, execute:
##   theme_set(theme_cowplot())

## ************************************************************
```

```
library(tidyr)
library(latex2exp)
library(Hmisc)
```

```
## Loading required package: lattice

## Loading required package: survival

## Loading required package: Formula

##
## Attaching package: 'Hmisc'
```

```
## The following objects are masked from 'package:dplyr':
##
##     src, summarize

## The following objects are masked from 'package:base':
##
##     format.pval, units
```

```
library(broom)
library(ggpubr)
```

```
## Loading required package: magrittr

##
## Attaching package: 'magrittr'

## The following object is masked from 'package:tidyr':
##
##     extract

##
## Attaching package: 'ggpubr'

## The following object is masked from 'package:cowplot':
##
##     get_legend
```

```
library(scales)
library(rstatix)
```

```
##
## Attaching package: 'rstatix'

## The following object is masked from 'package:stats':
##
##     filter
```

```
finResultsFile <- "../../data/fin_data.csv"
autoResultsFile <- "../../data/auto_data.csv"
finRawFile <- "../../data/fin_rq3_singletons.csv"
autoRawFile <- "../../data/auto_rq3_singletons.csv"

finData <- read.csv(file=finResultsFile) %>%
  mutate(Algorithm = as.factor(Algorithm), Config = as.factor(Config)) %>%
  mutate(Algorithm = gsub("-->", "\U27f6", Algorithm))

autoData <- read.csv(file=autoResultsFile) %>%
  mutate(Algorithm = as.factor(Algorithm), Config = as.factor(Config)) %>%
  mutate(Algorithm = gsub("-->", "\U27f6", Algorithm))

finDF <- finData %>% mutate(data = "Fin")
autoDF <- autoData %>% mutate(data = "Auto")

data <- rbind(finDF, autoDF)

head(data)
```

```
##                                                                                                                                  Name
## 1 Z3/v-->v/V1/Chc/0/numPlain/7803/Compression/0.0/VCore_Total/1/VCorePlain/1/VCoreVar/0/Variants/1
```

```
## 2 Z3/v-->v/V2/Chc/0/numPlain/9953/Compression/0.0/VCore_Total/1/VCorePlain/1/VCoreVar/0/Variants/1
## 3 Z3/v-->v/V3/Chc/0/numPlain/5070/Compression/0.0/VCore_Total/1/VCorePlain/1/VCoreVar/0/Variants/1
## 4 Z3/v-->v/V4/Chc/0/numPlain/5398/Compression/0.0/VCore_Total/1/VCorePlain/1/VCoreVar/0/Variants/1
## 5 Z3/v-->v/V5/Chc/0/numPlain/9525/Compression/0.0/VCore_Total/1/VCorePlain/1/VCoreVar/0/Variants/1
## 6 Z3/v-->v/V6/Chc/0/numPlain/9418/Compression/0.0/VCore_Total/1/VCorePlain/1/VCoreVar/0/Variants/1
##        Mean    MeanLB    MeanUB     Stddev   StddevLB   StddevUB DataSet
## 1 1.0102932 0.9604995 1.0646928 0.08709942 0.06328170 0.13337868      Z3
## 2 1.1692936 1.1197639 1.2177673 0.08028991 0.06158493 0.11257729      Z3
## 3 0.8133790 0.7811426 0.8538635 0.06333770 0.04391355 0.08827929      Z3
## 4 0.8005923 0.7679025 0.8477962 0.06292371 0.03292712 0.09741776      Z3
## 5 1.0908599 1.0304117 1.1650860 0.11393703 0.07104789 0.17078017      Z3
## 6 1.1049647 1.0715937 1.1597406 0.07055344 0.05003480 0.10270320      Z3
##   Algorithm Config ChcCount PlainCount CompressionRatio VCoreSize VCorePlain
## 1       v v     V1        0       7803                0         1          1
## 2       v v     V2        0       9953                0         1          1
## 3       v v     V3        0       5070                0         1          1
## 4       v v     V4        0       5398                0         1          1
## 5       v v     V5        0       9525                0         1          1
## 6       v v     V6        0       9418                0         1          1
##   VCoreVar Variants data
## 1        0        1  Fin
## 2        0        1  Fin
## 3        0        1  Fin
## 4        0        1  Fin
## 5        0        1  Fin
## 6        0        1  Fin
```