

prediction-RandomForest.R

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```
library(randomForest)
```

```
## randomForest 4.6-12
```

```
## Type rfNews() to see new features/changes/bug fixes.
```

```
library(ggplot2)
```

```
##
```

```
## Attaching package: 'ggplot2'
```

```
## The following object is masked from 'package:randomForest':
```

```
##
```

```
##      margin
```

```
dirpath <- "~/Doctorate/svm-gpuperf/"
setwd(paste(dirpath, sep=""))
```

```
gpus <- read.table("./R-code/deviceInfo.csv", sep="," , header=T)
```

```
NoGPU <- dim(gpus)[1]
```

```
apps <- c("matMul_gpu_uncoalesced", "matMul_gpu", "matMul_gpu_sharedmem_uncoalesced", "matMul_gpu_sharedmem",
         "matrix_sum_normal", "matrix_sum_coalesced",
         "dotProd", "vectorAdd", "subSeqMax")
```

```
# METRICS_3X <- c(
```

```
# "Shared.Memory.Replay.Overhead", "Global.Memory.Replay.Overhead", "Instruction.Replay.Overhead",
```

```
# "L2.Throughput..L1.Reads.", "L2.Hit.Rate..L1.Reads.", "L2.Read.Transactions", "L2.Write.Transactions"
```

```
# "L2.Read.Transactions..L1.read.requests.", "L2.Write.Transactions..L1.write.requests.",
```

```
# "Instructions.per.warp",
```

```
# "Global.Load.Transactions", "Global.Load.Transactions.Per.Request",
```

```
# "Issued.Control.Flow.Instructions", "Executed.Control.Flow.Instructions", "Issued.Load.Store.Instruct
```

```
# "Floating.Point.Operations.Single.Precision.", "Floating.Point.Operations.Single.Precision.Add.", "Flo
```

```
# "Floating.Point.Operations.Single.Precision.FMA.", "FLOP.Efficiency.Peak.Single.",
```

```
# "Instructions.Executed", "Instructions.Issued", "Issue.Slots", "Control.Flow.Instructions", "Misc.I
```

```
#
```

```
# EVENTS_3X <- c("l2_subp0_total_read_sector_queries", "l2_subp1_total_read_sector_queries", "l2_subp
```

```
# "l2_subp3_total_read_sector_queries", "l2_subp0_total_write_sector_queries", "l2_subp1_t
```

```
# "l2_subp2_total_write_sector_queries", "l2_subp3_total_write_sector_queries", "elapse
```

```
# "gld_inst_8bit", "gld_inst_16bit", "gld_inst_32bit", "gld_inst_64bit", "gld_inst_1
```

```
# "gst_inst_16bit", "gst_inst_32bit", "gst_inst_64bit", "gst_inst_128bit", "threads_laun
```

```
# "sm_cta_launched", "uncached_global_load_transaction", "global_store_transaction",
```

```
# "X__l1_global_load_transactions", "X__l1_global_store_transactions")
```

```
#
```

```
#
```

```

#
# par3X <- c("Duration", "Achieved.Occupancy", "Executed.IPC", "Global.Store.Transactions.Per.Request",
#           "Device.Memory.Read.Transactions", "L2.Write.Transactions", "warps_launched"
#           "Block.X", "Block.Y", "Grid.X", "Grid.Y", "Registers.Per.Thread", "Static.SM")
#
# DataAppGPU30 <- read.csv(file = "./R-code/Datasets/AppGPU30.csv")
# DataAppGPU35 <- read.csv(file = "./R-code/Datasets/AppGPU35.csv")
# DataAppGPU50 <- read.csv(file = "./R-code/Datasets/AppGPU50.csv")
# DataAppGPU52 <- read.csv(file = "./R-code/Datasets/AppGPU52.csv")

Parameters_3x <- c("GpuName", "GpuId", "L2", "Bus", "Memoryclock", "AppName", "AppId", "Input.Size", "Duration",
                  "Shared.Memory.Load.Transactions.Per.Request", "Shared.Memory.Store.Transactions.Per.Request",
                  "Global.Load.Transactions.Per.Request", "Global.Store.Transactions.Per.Request",
                  "Shared.Load.Transactions", "Shared.Store.Transactions", "Global.Load.Transactions",
                  "Device.Memory.Read.Transactions", "Device.Memory.Write.Transactions", "L2.Read.Transactions",
                  "Issued.Control.Flow.Instructions", "Executed.Control.Flow.Instructions", "Issued.Control.Flow.Instructions",
                  "Floating.Point.Operations.Single.Precision.", "Floating.Point.Operations.Single.Precision.",
                  "Issue.Slots", "FP.Instructions.Single.", "Control.Flow.Instructions", "Misc.Instructions",
                  "ECC.Transactions", "Eligible.Warps.Per.Active.Cycle", "FLOP.Efficiency.Peak.Single.",
                  "threads_launched", "inst_executed", "inst_issued1", "inst_issued2", "gld_inst_32bit", "gst_inst_32bit")

Parameters_5x <- c("GpuName", "GpuId", "L2", "Bus", "Memoryclock", "AppName", "AppId", "Input.Size", "Duration",
                  "Shared.Memory.Load.Transactions.Per.Request", "Shared.Memory.Store.Transactions.Per.Request",
                  "Global.Load.Transactions.Per.Request", "Global.Store.Transactions.Per.Request",
                  "Shared.Load.Transactions", "Shared.Store.Transactions", "Global.Load.Transactions",
                  "Device.Memory.Read.Transactions", "Device.Memory.Write.Transactions", "L2.Read.Transactions",
                  "Global.Hit.Rate",
                  "Issued.Control.Flow.Instructions", "Executed.Control.Flow.Instructions", "Issued.Control.Flow.Instructions",
                  "Floating.Point.Operations.Single.Precision.", "Floating.Point.Operations.Single.Precision.",
                  "Issue.Slots", "FP.Instructions.Single.", "Control.Flow.Instructions", "Misc.Instructions",
                  "Eligible.Warps.Per.Active.Cycle", "FLOP.Efficiency.Peak.Single.", "fb_subp0_read_sec",
                  "inst_executed", "inst_issued1", "inst_issued2", "gld_inst_32bit", "gst_inst_32bit", "fb_subp0_read_sec")

# Those parameters are always 0 in CC 3.5 and 5.2
# Local.Memory.Load.Transactions.Per.Request
# Local.Memory.Store.Transactions.Per.Request
# Local.Load.Transactions
# Local.Store.Transactions
#
# Those parameters are not in CC 5.2 or they are always 0
# L2.Read.Transactions..L1.read.requests.
# L2.Write.Transactions..L1.write.requests.
# ECC.Transactions
# threads_launched
# gld_request
# gst_request

DataAppGPU30 <- read.csv(file = paste("./R-code/Datasets/AppGPU30.csv", sep = ""))
DataAppGPU35 <- read.csv(file = paste("./R-code/Datasets/AppGPU35.csv", sep = ""))
DataAppGPU50 <- read.csv(file = paste("./R-code/Datasets/AppGPU50.csv", sep = ""))
DataAppGPU52 <- read.csv(file = paste("./R-code/Datasets/AppGPU52.csv", sep = ""))

```

```

result <- data.frame()
# write.csv(Data, file = "./R-code/Datasets/CleanData/App-GPU-CC-5X.csv")
for (CC in c(3,5)){
  if (CC == 3 ){
    DataAppGPU <- rbind(DataAppGPU30[Parameters_3x], DataAppGPU35[Parameters_3x])
  } else {
    DataAppGPU <- rbind(DataAppGPU50[Parameters_5x],DataAppGPU52[Parameters_5x])
  }
  for( j in 1:9) {

    Data <- subset(DataAppGPU, AppId == j )
    Data <- Data[complete.cases(Data),]
    dim(Data)
    # View(Data)
    # summary(Data)
    # DataAppGPU35 <- DataAppGPU35[apply(DataAppGPU35,is.numeric)]
    # DataAppGPU35 <- DataAppGPU35[,-(which(colSums(DataAppGPU35) == 0)))]
    #

    if (j < 5) {
      lowerLimit <- 2048
      uperLimit <- 4096
      blockSize <- 16
    } else if (j >= 5 & j < 7) {
      lowerLimit <- 4096
      uperLimit <- 5376
      blockSize <- 16
    } else {
      lowerLimit <- 50331648
      uperLimit <- 71303168
      blockSize <- 256
    }

    if (j < 9) {
      trainingSet <- subset(Data, Input.Size <= lowerLimit | Input.Size >= uperLimit | Block.X !=
      testSet <- subset(Data, (Input.Size > lowerLimit & Input.Size < uperLimit) & Block.X == blo
      dim(trainingSet)
      dim(testSet)
    } else {
      trainingSet <- subset(Data, Input.Size <= lowerLimit | Input.Size >= uperLimit)
      testSet <- subset(Data, (Input.Size > lowerLimit & Input.Size < uperLimit))
    }

    trainingSet$AppName <- NULL
    trainingSet$GpuName <- NULL
    trainingSet$GpuId <- NULL
    # trainingDuration <- trainingSet["Duration"]
    # trainingSet$Duration <- NULL
    dim(trainingSet)

    TestDuration <- testSet["Duration"]
    Size <- testSet["Input.Size"]
  }
}

```

```

App <- testSet["AppName"]
Gpu <- testSet["GpuName"]
Block <- testSet["Block.X"]

testSet$AppName <- NULL
testSet$GpuName <- NULL
testSet$GpuId <- NULL
testSet$Duration <- NULL
dim(testSet)

fit <- randomForest(trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE, do
print(fit)
summary(fit)
predictions <- predict(fit, testSet)

mse <- mean((as.matrix(TestDuration) - predictions)^2)
mae <- mean(abs(as.matrix(TestDuration) - predictions))
mape <- mean(abs(as.matrix(TestDuration) - predictions)/predictions)
# mpe <- mean(as.matrix(TestDuration) - predictions/predictions)
# smape = mean((abs(as.matrix(predictions) - TestDuration) / (abs(TestDuration) + abs(prediction

Acc <- predictions/TestDuration
AccMin <- min(Acc)
AccMean <- mean(as.matrix(Acc))
AccMedian <- median(as.matrix(Acc))
AccMax <- max(Acc)
AccSD <- sd(as.matrix(Acc))

Tempresult <- data.frame(Gpu, App, Size, Block, TestDuration, predictions, Acc, AccMin, AccMax,

result <- rbind(result, Tempresult)

}
}

```

```

##      |      Out-of-bag      |
## Tree |      MSE %Var(y) |
## 100 | 0.06429   4.59 |
## 200 | 0.06535   4.66 |
## 300 | 0.06497   4.64 |
## 400 | 0.06462   4.61 |
## 500 | 0.06568   4.69 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet,      mtry = 2, importance = TR
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 0.06567631
##           % Var explained: 95.31
##      |      Out-of-bag      |
## Tree |      MSE %Var(y) |

```

```

## 100 | 0.02673 4.16 |
## 200 | 0.02548 3.96 |
## 300 | 0.02579 4.01 |
## 400 | 0.02582 4.01 |
## 500 | 0.02535 3.94 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 0.02534678
##           % Var explained: 96.06
##           | Out-of-bag |
## Tree | MSE %Var(y) |
## 100 | 0.05824 5.43 |
## 200 | 0.0576 5.37 |
## 300 | 0.05746 5.36 |
## 400 | 0.05824 5.43 |
## 500 | 0.05843 5.45 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 0.05843413
##           % Var explained: 94.55
##           | Out-of-bag |
## Tree | MSE %Var(y) |
## 100 | 0.02172 5.09 |
## 200 | 0.02085 4.89 |
## 300 | 0.02173 5.09 |
## 400 | 0.02171 5.09 |
## 500 | 0.02152 5.04 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 0.02151555
##           % Var explained: 94.96
##           | Out-of-bag |
## Tree | MSE %Var(y) |
## 100 | 5.304e-05 10.62 |
## 200 | 5.505e-05 11.02 |
## 300 | 5.497e-05 11.01 |
## 400 | 5.464e-05 10.94 |
## 500 | 5.509e-05 11.03 |
##

```

```

## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 5.508559e-05
##           % Var explained: 88.97
##           |           Out-of-bag           |
## Tree |           MSE %Var(y) |
## 100 | 1.607e-07      4.28 |
## 200 | 1.606e-07      4.27 |
## 300 | 1.645e-07      4.38 |
## 400 | 1.62e-07      4.31 |
## 500 | 1.61e-07      4.28 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 1.609823e-07
##           % Var explained: 95.72
##           |           Out-of-bag           |
## Tree |           MSE %Var(y) |
## 100 | 5.569e-06      2.39 |
## 200 | 5.59e-06      2.40 |
## 300 | 5.273e-06      2.26 |
## 400 | 5.208e-06      2.23 |
## 500 | 5.244e-06      2.25 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 5.24426e-06
##           % Var explained: 97.75
##           |           Out-of-bag           |
## Tree |           MSE %Var(y) |
## 100 | 1.222e-06      3.18 |
## 200 | 1.136e-06      2.96 |
## 300 | 1.119e-06      2.91 |
## 400 | 1.088e-06      2.83 |
## 500 | 1.118e-06      2.91 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##

```

```

##           Mean of squared residuals: 1.11754e-06
##           % Var explained: 97.09
##           |           Out-of-bag           |
## Tree |           MSE %Var(y) |
## 100 | 4.182e-05      1.96 |
## 200 | 4.08e-05      1.91 |
## 300 | 4.058e-05     1.90 |
## 400 | 4.013e-05     1.88 |
## 500 | 4.064e-05     1.91 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 4.06406e-05
##           % Var explained: 98.09
##           |           Out-of-bag           |
## Tree |           MSE %Var(y) |
## 100 |      0.129    12.87 |
## 200 |     0.1281    12.78 |
## 300 |     0.1275    12.72 |
## 400 |      0.129    12.87 |
## 500 |     0.1287    12.84 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 0.1287265
##           % Var explained: 87.16
##           |           Out-of-bag           |
## Tree |           MSE %Var(y) |
## 100 |     0.1393    10.10 |
## 200 |     0.1287     9.33 |
## 300 |     0.1297     9.40 |
## 400 |      0.132     9.57 |
## 500 |     0.1319     9.57 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 0.13193
##           % Var explained: 90.43
##           |           Out-of-bag           |
## Tree |           MSE %Var(y) |
## 100 |     0.1387    13.01 |
## 200 |     0.1392    13.04 |

```

```

## 300 | 0.1381 12.95 |
## 400 | 0.1354 12.69 |
## 500 | 0.1355 12.70 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 0.1354829
##           % Var explained: 87.3
##           | Out-of-bag |
## Tree | MSE %Var(y) |
## 100 | 0.09101 11.76 |
## 200 | 0.08726 11.27 |
## 300 | 0.09009 11.64 |
## 400 | 0.08986 11.61 |
## 500 | 0.09108 11.76 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 0.0910782
##           % Var explained: 88.24
##           | Out-of-bag |
## Tree | MSE %Var(y) |
## 100 | 4.155e-05 25.35 |
## 200 | 4.431e-05 27.03 |
## 300 | 4.551e-05 27.76 |
## 400 | 4.311e-05 26.30 |
## 500 | 4.4e-05 26.84 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 4.399588e-05
##           % Var explained: 73.16
##           | Out-of-bag |
## Tree | MSE %Var(y) |
## 100 | 6.881e-07 9.20 |
## 200 | 6.308e-07 8.43 |
## 300 | 6.038e-07 8.07 |
## 400 | 5.955e-07 7.96 |
## 500 | 5.814e-07 7.77 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)

```



```

##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 5.814403e-07
##           % Var explained: 92.23
##           |           Out-of-bag           |
## Tree |           MSE %Var(y) |
## 100 | 2.902e-06      4.08 |
## 200 | 2.778e-06      3.91 |
## 300 | 2.764e-06      3.89 |
## 400 | 2.755e-06      3.88 |
## 500 | 2.765e-06      3.89 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 2.765453e-06
##           % Var explained: 96.11
##           |           Out-of-bag           |
## Tree |           MSE %Var(y) |
## 100 | 8.408e-07      2.61 |
## 200 | 7.375e-07      2.29 |
## 300 | 7.399e-07      2.29 |
## 400 | 7.442e-07      2.31 |
## 500 | 7.199e-07      2.23 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 7.198846e-07
##           % Var explained: 97.77
##           |           Out-of-bag           |
## Tree |           MSE %Var(y) |
## 100 | 3.597e-05      6.55 |
## 200 | 3.549e-05      6.47 |
## 300 | 3.386e-05      6.17 |
## 400 | 3.409e-05      6.21 |
## 500 | 3.231e-05      5.89 |
##
## Call:
## randomForest(formula = trainingSet$Duration ~ ., data = trainingSet, mtry = 2, importance = TRUE)
##           Type of random forest: regression
##           Number of trees: 500
## No. of variables tried at each split: 2
##
##           Mean of squared residuals: 3.230744e-05
##           % Var explained: 94.11

```

result

##	GpuName	AppName	Input.Size	Block.X
## 41	GTX-680	matMul_gpu_uncoalesced	2304	16
## 42	GTX-680	matMul_gpu_uncoalesced	2560	16
## 43	GTX-680	matMul_gpu_uncoalesced	2816	16
## 1092	Tesla-K40	matMul_gpu_uncoalesced	2304	16
## 2220	Tesla-K20	matMul_gpu_uncoalesced	2304	16
## 3348	TitanBlack	matMul_gpu_uncoalesced	2304	16
## 4476	Titan	matMul_gpu_uncoalesced	2304	16
## 5604	Quadro	matMul_gpu_uncoalesced	2304	16
## 137	GTX-680	matMul_gpu	2304	16
## 138	GTX-680	matMul_gpu	2560	16
## 139	GTX-680	matMul_gpu	2816	16
## 140	GTX-680	matMul_gpu	3072	16
## 141	GTX-680	matMul_gpu	3328	16
## 142	GTX-680	matMul_gpu	3584	16
## 143	GTX-680	matMul_gpu	3840	16
## 1188	Tesla-K40	matMul_gpu	2304	16
## 1189	Tesla-K40	matMul_gpu	2560	16
## 1190	Tesla-K40	matMul_gpu	2816	16
## 1191	Tesla-K40	matMul_gpu	3072	16
## 1192	Tesla-K40	matMul_gpu	3328	16
## 1193	Tesla-K40	matMul_gpu	3584	16
## 1194	Tesla-K40	matMul_gpu	3840	16
## 2316	Tesla-K20	matMul_gpu	2304	16
## 2317	Tesla-K20	matMul_gpu	2560	16
## 2318	Tesla-K20	matMul_gpu	2816	16
## 2319	Tesla-K20	matMul_gpu	3072	16
## 2320	Tesla-K20	matMul_gpu	3328	16
## 2321	Tesla-K20	matMul_gpu	3584	16
## 2322	Tesla-K20	matMul_gpu	3840	16
## 3444	TitanBlack	matMul_gpu	2304	16
## 3445	TitanBlack	matMul_gpu	2560	16
## 3446	TitanBlack	matMul_gpu	2816	16
## 3447	TitanBlack	matMul_gpu	3072	16
## 3448	TitanBlack	matMul_gpu	3328	16
## 3449	TitanBlack	matMul_gpu	3584	16
## 3450	TitanBlack	matMul_gpu	3840	16
## 4572	Titan	matMul_gpu	2304	16
## 4573	Titan	matMul_gpu	2560	16
## 4574	Titan	matMul_gpu	2816	16
## 4575	Titan	matMul_gpu	3072	16
## 4576	Titan	matMul_gpu	3328	16
## 4577	Titan	matMul_gpu	3584	16
## 4578	Titan	matMul_gpu	3840	16
## 5684	Quadro	matMul_gpu	2304	16
## 5685	Quadro	matMul_gpu	2560	16
## 5686	Quadro	matMul_gpu	2816	16
## 5687	Quadro	matMul_gpu	3072	16
## 5688	Quadro	matMul_gpu	3328	16
## 5689	Quadro	matMul_gpu	3584	16
## 5690	Quadro	matMul_gpu	3840	16
## 233	GTX-680	matMul_gpu_sharedmem_uncoalesced	2304	16

## 234	GTX-680	matMul_gpu_sharedmem_uncoalesced	2560	16
## 235	GTX-680	matMul_gpu_sharedmem_uncoalesced	2816	16
## 236	GTX-680	matMul_gpu_sharedmem_uncoalesced	3072	16
## 237	GTX-680	matMul_gpu_sharedmem_uncoalesced	3328	16
## 238	GTX-680	matMul_gpu_sharedmem_uncoalesced	3584	16
## 239	GTX-680	matMul_gpu_sharedmem_uncoalesced	3840	16
## 1284	Tesla-K40	matMul_gpu_sharedmem_uncoalesced	2304	16
## 1285	Tesla-K40	matMul_gpu_sharedmem_uncoalesced	2560	16
## 1286	Tesla-K40	matMul_gpu_sharedmem_uncoalesced	2816	16
## 1287	Tesla-K40	matMul_gpu_sharedmem_uncoalesced	3072	16
## 1288	Tesla-K40	matMul_gpu_sharedmem_uncoalesced	3328	16
## 1289	Tesla-K40	matMul_gpu_sharedmem_uncoalesced	3584	16
## 1290	Tesla-K40	matMul_gpu_sharedmem_uncoalesced	3840	16
## 2412	Tesla-K20	matMul_gpu_sharedmem_uncoalesced	2304	16
## 2413	Tesla-K20	matMul_gpu_sharedmem_uncoalesced	2560	16
## 2414	Tesla-K20	matMul_gpu_sharedmem_uncoalesced	2816	16
## 2415	Tesla-K20	matMul_gpu_sharedmem_uncoalesced	3072	16
## 2416	Tesla-K20	matMul_gpu_sharedmem_uncoalesced	3328	16
## 2417	Tesla-K20	matMul_gpu_sharedmem_uncoalesced	3584	16
## 2418	Tesla-K20	matMul_gpu_sharedmem_uncoalesced	3840	16
## 3540	TitanBlack	matMul_gpu_sharedmem_uncoalesced	2304	16
## 3541	TitanBlack	matMul_gpu_sharedmem_uncoalesced	2560	16
## 3542	TitanBlack	matMul_gpu_sharedmem_uncoalesced	2816	16
## 3543	TitanBlack	matMul_gpu_sharedmem_uncoalesced	3072	16
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## 3546	TitanBlack	matMul_gpu_sharedmem_uncoalesced	3840	16
## 4668	Titan	matMul_gpu_sharedmem_uncoalesced	2304	16
## 4669	Titan	matMul_gpu_sharedmem_uncoalesced	2560	16
## 4670	Titan	matMul_gpu_sharedmem_uncoalesced	2816	16
## 4671	Titan	matMul_gpu_sharedmem_uncoalesced	3072	16
## 4672	Titan	matMul_gpu_sharedmem_uncoalesced	3328	16
## 4673	Titan	matMul_gpu_sharedmem_uncoalesced	3584	16
## 4674	Titan	matMul_gpu_sharedmem_uncoalesced	3840	16
## 5764	Quadro	matMul_gpu_sharedmem_uncoalesced	2304	16
## 5765	Quadro	matMul_gpu_sharedmem_uncoalesced	2560	16
## 5766	Quadro	matMul_gpu_sharedmem_uncoalesced	2816	16
## 5767	Quadro	matMul_gpu_sharedmem_uncoalesced	3072	16
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## 5769	Quadro	matMul_gpu_sharedmem_uncoalesced	3584	16
## 5770	Quadro	matMul_gpu_sharedmem_uncoalesced	3840	16
## 329	GTX-680	matMul_gpu_sharedmem	2304	16
## 330	GTX-680	matMul_gpu_sharedmem	2560	16
## 331	GTX-680	matMul_gpu_sharedmem	2816	16
## 332	GTX-680	matMul_gpu_sharedmem	3072	16
## 333	GTX-680	matMul_gpu_sharedmem	3328	16
## 334	GTX-680	matMul_gpu_sharedmem	3584	16
## 335	GTX-680	matMul_gpu_sharedmem	3840	16
## 1380	Tesla-K40	matMul_gpu_sharedmem	2304	16
## 1381	Tesla-K40	matMul_gpu_sharedmem	2560	16
## 1382	Tesla-K40	matMul_gpu_sharedmem	2816	16
## 1383	Tesla-K40	matMul_gpu_sharedmem	3072	16
## 1384	Tesla-K40	matMul_gpu_sharedmem	3328	16
## 1385	Tesla-K40	matMul_gpu_sharedmem	3584	16

## 1386	Tesla-K40	matMul_gpu_sharedmem	3840	16
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## 2509	Tesla-K20	matMul_gpu_sharedmem	2560	16
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## 2512	Tesla-K20	matMul_gpu_sharedmem	3328	16
## 2513	Tesla-K20	matMul_gpu_sharedmem	3584	16
## 2514	Tesla-K20	matMul_gpu_sharedmem	3840	16
## 3636	TitanBlack	matMul_gpu_sharedmem	2304	16
## 3637	TitanBlack	matMul_gpu_sharedmem	2560	16
## 3638	TitanBlack	matMul_gpu_sharedmem	2816	16
## 3639	TitanBlack	matMul_gpu_sharedmem	3072	16
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## 3642	TitanBlack	matMul_gpu_sharedmem	3840	16
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## 4765	Titan	matMul_gpu_sharedmem	2560	16
## 4766	Titan	matMul_gpu_sharedmem	2816	16
## 4767	Titan	matMul_gpu_sharedmem	3072	16
## 4768	Titan	matMul_gpu_sharedmem	3328	16
## 4769	Titan	matMul_gpu_sharedmem	3584	16
## 4770	Titan	matMul_gpu_sharedmem	3840	16
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## 5845	Quadro	matMul_gpu_sharedmem	2560	16
## 5846	Quadro	matMul_gpu_sharedmem	2816	16
## 5847	Quadro	matMul_gpu_sharedmem	3072	16
## 5848	Quadro	matMul_gpu_sharedmem	3328	16
## 5849	Quadro	matMul_gpu_sharedmem	3584	16
## 5850	Quadro	matMul_gpu_sharedmem	3840	16
## 433	GTX-680	matrix_sum_normal	4352	16
## 434	GTX-680	matrix_sum_normal	4608	16
## 435	GTX-680	matrix_sum_normal	4864	16
## 436	GTX-680	matrix_sum_normal	5120	16
## 1484	Tesla-K40	matrix_sum_normal	4352	16
## 1485	Tesla-K40	matrix_sum_normal	4608	16
## 1486	Tesla-K40	matrix_sum_normal	4864	16
## 1487	Tesla-K40	matrix_sum_normal	5120	16
## 2612	Tesla-K20	matrix_sum_normal	4352	16
## 2613	Tesla-K20	matrix_sum_normal	4608	16
## 2614	Tesla-K20	matrix_sum_normal	4864	16
## 2615	Tesla-K20	matrix_sum_normal	5120	16
## 3740	TitanBlack	matrix_sum_normal	4352	16
## 3741	TitanBlack	matrix_sum_normal	4608	16
## 3742	TitanBlack	matrix_sum_normal	4864	16
## 3743	TitanBlack	matrix_sum_normal	5120	16
## 4868	Titan	matrix_sum_normal	4352	16
## 4869	Titan	matrix_sum_normal	4608	16
## 4870	Titan	matrix_sum_normal	4864	16
## 4871	Titan	matrix_sum_normal	5120	16
## 5979	Quadro	matrix_sum_normal	4224	16
## 5980	Quadro	matrix_sum_normal	4352	16
## 5981	Quadro	matrix_sum_normal	4480	16
## 5982	Quadro	matrix_sum_normal	4608	16
## 5983	Quadro	matrix_sum_normal	4736	16

## 5984	Quadro	matrix_sum_normal	4864	16
## 5985	Quadro	matrix_sum_normal	4992	16
## 5986	Quadro	matrix_sum_normal	5120	16
## 5987	Quadro	matrix_sum_normal	5248	16
## 529	GTX-680	matrix_sum_coalesced	4352	16
## 530	GTX-680	matrix_sum_coalesced	4608	16
## 531	GTX-680	matrix_sum_coalesced	4864	16
## 532	GTX-680	matrix_sum_coalesced	5120	16
## 1580	Tesla-K40	matrix_sum_coalesced	4352	16
## 1581	Tesla-K40	matrix_sum_coalesced	4608	16
## 1582	Tesla-K40	matrix_sum_coalesced	4864	16
## 1583	Tesla-K40	matrix_sum_coalesced	5120	16
## 2708	Tesla-K20	matrix_sum_coalesced	4352	16
## 2709	Tesla-K20	matrix_sum_coalesced	4608	16
## 2710	Tesla-K20	matrix_sum_coalesced	4864	16
## 2711	Tesla-K20	matrix_sum_coalesced	5120	16
## 3836	TitanBlack	matrix_sum_coalesced	4352	16
## 3837	TitanBlack	matrix_sum_coalesced	4608	16
## 3838	TitanBlack	matrix_sum_coalesced	4864	16
## 3839	TitanBlack	matrix_sum_coalesced	5120	16
## 4964	Titan	matrix_sum_coalesced	4352	16
## 4965	Titan	matrix_sum_coalesced	4608	16
## 4966	Titan	matrix_sum_coalesced	4864	16
## 4967	Titan	matrix_sum_coalesced	5120	16
## 6138	Quadro	matrix_sum_coalesced	4224	16
## 6139	Quadro	matrix_sum_coalesced	4352	16
## 6140	Quadro	matrix_sum_coalesced	4480	16
## 6141	Quadro	matrix_sum_coalesced	4608	16
## 6142	Quadro	matrix_sum_coalesced	4736	16
## 6143	Quadro	matrix_sum_coalesced	4864	16
## 6144	Quadro	matrix_sum_coalesced	4992	16
## 6145	Quadro	matrix_sum_coalesced	5120	16
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## 660	GTX-680	dotProd	54525952	256
## 661	GTX-680	dotProd	58720256	256
## 662	GTX-680	dotProd	62914560	256
## 663	GTX-680	dotProd	67108864	256
## 1714	Tesla-K40	dotProd	54525952	256
## 1715	Tesla-K40	dotProd	58720256	256
## 1716	Tesla-K40	dotProd	62914560	256
## 1717	Tesla-K40	dotProd	67108864	256
## 2842	Tesla-K20	dotProd	54525952	256
## 2843	Tesla-K20	dotProd	58720256	256
## 2844	Tesla-K20	dotProd	62914560	256
## 2845	Tesla-K20	dotProd	67108864	256
## 3970	TitanBlack	dotProd	54525952	256
## 3971	TitanBlack	dotProd	58720256	256
## 3972	TitanBlack	dotProd	62914560	256
## 3973	TitanBlack	dotProd	67108864	256
## 5098	Titan	dotProd	54525952	256
## 5099	Titan	dotProd	58720256	256
## 5100	Titan	dotProd	62914560	256
## 5101	Titan	dotProd	67108864	256
## 6288	Quadro	dotProd	54525952	256

## 6289	Quadro	dotProd	58720256	256
## 6290	Quadro	dotProd	62914560	256
## 6291	Quadro	dotProd	67108864	256
## 840	GTX-680	vectorAdd	54525952	256
## 841	GTX-680	vectorAdd	58720256	256
## 842	GTX-680	vectorAdd	62914560	256
## 843	GTX-680	vectorAdd	67108864	256
## 1921	Tesla-K40	vectorAdd	54525952	256
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## 1924	Tesla-K40	vectorAdd	67108864	256
## 3049	Tesla-K20	vectorAdd	54525952	256
## 3050	Tesla-K20	vectorAdd	58720256	256
## 3051	Tesla-K20	vectorAdd	62914560	256
## 3052	Tesla-K20	vectorAdd	67108864	256
## 4177	TitanBlack	vectorAdd	54525952	256
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## 4179	TitanBlack	vectorAdd	62914560	256
## 4180	TitanBlack	vectorAdd	67108864	256
## 5305	Titan	vectorAdd	54525952	256
## 5306	Titan	vectorAdd	58720256	256
## 5307	Titan	vectorAdd	62914560	256
## 5308	Titan	vectorAdd	67108864	256
## 6495	Quadro	vectorAdd	54525952	256
## 6496	Quadro	vectorAdd	58720256	256
## 6497	Quadro	vectorAdd	62914560	256
## 6498	Quadro	vectorAdd	67108864	256
## 931	GTX-680	subSeqMax	54525952	128
## 932	GTX-680	subSeqMax	58720256	128
## 933	GTX-680	subSeqMax	62914560	128
## 934	GTX-680	subSeqMax	67108864	128
## 1000	GTX-680	subSeqMax	54525952	128
## 1001	GTX-680	subSeqMax	58720256	128
## 1002	GTX-680	subSeqMax	62914560	128
## 1003	GTX-680	subSeqMax	67108864	128
## 2059	Tesla-K40	subSeqMax	54525952	128
## 2060	Tesla-K40	subSeqMax	58720256	128
## 2061	Tesla-K40	subSeqMax	62914560	128
## 2062	Tesla-K40	subSeqMax	67108864	128
## 2128	Tesla-K40	subSeqMax	54525952	128
## 2129	Tesla-K40	subSeqMax	58720256	128
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## 2131	Tesla-K40	subSeqMax	67108864	128
## 3187	Tesla-K20	subSeqMax	54525952	128
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## 5515	Titan	subSeqMax	67108864	128
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## 6705	Quadro	subSeqMax	67108864	128
## 411	GTX-750	matMul_gpu_uncoalesced	2304	16
## 421	GTX-750	matMul_gpu_uncoalesced	2560	16
## 431	GTX-750	matMul_gpu_uncoalesced	2816	16
## 44	GTX-750	matMul_gpu_uncoalesced	3072	16
## 917	TitanX	matMul_gpu_uncoalesced	2304	16
## 918	TitanX	matMul_gpu_uncoalesced	2560	16
## 919	TitanX	matMul_gpu_uncoalesced	2816	16
## 920	TitanX	matMul_gpu_uncoalesced	3072	16
## 921	TitanX	matMul_gpu_uncoalesced	3328	16
## 922	TitanX	matMul_gpu_uncoalesced	3584	16
## 923	TitanX	matMul_gpu_uncoalesced	3840	16
## 2109	GTX-980	matMul_gpu_uncoalesced	2304	16
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## 2111	GTX-980	matMul_gpu_uncoalesced	2816	16
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## 2114	GTX-980	matMul_gpu_uncoalesced	3584	16
## 2115	GTX-980	matMul_gpu_uncoalesced	3840	16
## 3237	GTX-970	matMul_gpu_uncoalesced	2304	16
## 3238	GTX-970	matMul_gpu_uncoalesced	2560	16
## 3239	GTX-970	matMul_gpu_uncoalesced	2816	16
## 3240	GTX-970	matMul_gpu_uncoalesced	3072	16
## 3241	GTX-970	matMul_gpu_uncoalesced	3328	16
## 3242	GTX-970	matMul_gpu_uncoalesced	3584	16
## 3243	GTX-970	matMul_gpu_uncoalesced	3840	16
## 1371	GTX-750	matMul_gpu	2304	16
## 1387	GTX-750	matMul_gpu	2560	16
## 1391	GTX-750	matMul_gpu	2816	16
## 1401	GTX-750	matMul_gpu	3072	16
## 1411	GTX-750	matMul_gpu	3328	16
## 1421	GTX-750	matMul_gpu	3584	16
## 1431	GTX-750	matMul_gpu	3840	16
## 1013	TitanX	matMul_gpu	2304	16

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## 1017	TitanX	matMul_gpu	3328	16
## 1018	TitanX	matMul_gpu	3584	16
## 1019	TitanX	matMul_gpu	3840	16
## 2205	GTX-980	matMul_gpu	2304	16
## 2206	GTX-980	matMul_gpu	2560	16
## 2207	GTX-980	matMul_gpu	2816	16
## 2208	GTX-980	matMul_gpu	3072	16
## 2209	GTX-980	matMul_gpu	3328	16
## 2210	GTX-980	matMul_gpu	3584	16
## 2211	GTX-980	matMul_gpu	3840	16
## 3333	GTX-970	matMul_gpu	2304	16
## 3334	GTX-970	matMul_gpu	2560	16
## 3335	GTX-970	matMul_gpu	2816	16
## 3336	GTX-970	matMul_gpu	3072	16
## 3337	GTX-970	matMul_gpu	3328	16
## 3338	GTX-970	matMul_gpu	3584	16
## 3339	GTX-970	matMul_gpu	3840	16
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## 2341	GTX-750	matMul_gpu_sharedmem_uncoalesced	2560	16
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## 2361	GTX-750	matMul_gpu_sharedmem_uncoalesced	3072	16
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## 2391	GTX-750	matMul_gpu_sharedmem_uncoalesced	3840	16
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## 1112	TitanX	matMul_gpu_sharedmem_uncoalesced	3072	16
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## 1115	TitanX	matMul_gpu_sharedmem_uncoalesced	3840	16
## 2301	GTX-980	matMul_gpu_sharedmem_uncoalesced	2304	16
## 2302	GTX-980	matMul_gpu_sharedmem_uncoalesced	2560	16
## 2303	GTX-980	matMul_gpu_sharedmem_uncoalesced	2816	16
## 2304	GTX-980	matMul_gpu_sharedmem_uncoalesced	3072	16
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## 2307	GTX-980	matMul_gpu_sharedmem_uncoalesced	3840	16
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## 3432	GTX-970	matMul_gpu_sharedmem_uncoalesced	3072	16
## 3433	GTX-970	matMul_gpu_sharedmem_uncoalesced	3328	16
## 3434	GTX-970	matMul_gpu_sharedmem_uncoalesced	3584	16
## 3435	GTX-970	matMul_gpu_sharedmem_uncoalesced	3840	16
## 3291	GTX-750	matMul_gpu_sharedmem	2304	16
## 3301	GTX-750	matMul_gpu_sharedmem	2560	16
## 3311	GTX-750	matMul_gpu_sharedmem	2816	16
## 3321	GTX-750	matMul_gpu_sharedmem	3072	16
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## 1205	TitanX	matMul_gpu_sharedmem	2304	16
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## 1207	TitanX	matMul_gpu_sharedmem	2816	16
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## 1211	TitanX	matMul_gpu_sharedmem	3840	16
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## 3528	GTX-970	matMul_gpu_sharedmem	3072	16
## 3529	GTX-970	matMul_gpu_sharedmem	3328	16
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## 3531	GTX-970	matMul_gpu_sharedmem	3840	16
## 4331	GTX-750	matrix_sum_normal	4352	16
## 4341	GTX-750	matrix_sum_normal	4608	16
## 4351	GTX-750	matrix_sum_normal	4864	16
## 4361	GTX-750	matrix_sum_normal	5120	16
## 1341	TitanX	matrix_sum_normal	4352	16
## 1342	TitanX	matrix_sum_normal	4608	16
## 1343	TitanX	matrix_sum_normal	4864	16
## 1344	TitanX	matrix_sum_normal	5120	16
## 2501	GTX-980	matrix_sum_normal	4352	16
## 2502	GTX-980	matrix_sum_normal	4608	16
## 2503	GTX-980	matrix_sum_normal	4864	16
## 2504	GTX-980	matrix_sum_normal	5120	16
## 3629	GTX-970	matrix_sum_normal	4352	16
## 3630	GTX-970	matrix_sum_normal	4608	16
## 3631	GTX-970	matrix_sum_normal	4864	16
## 3632	GTX-970	matrix_sum_normal	5120	16
## 5291	GTX-750	matrix_sum_coalesced	4352	16
## 5301	GTX-750	matrix_sum_coalesced	4608	16
## 5311	GTX-750	matrix_sum_coalesced	4864	16
## 5321	GTX-750	matrix_sum_coalesced	5120	16
## 1469	TitanX	matrix_sum_coalesced	4352	16
## 1470	TitanX	matrix_sum_coalesced	4608	16
## 1471	TitanX	matrix_sum_coalesced	4864	16
## 1472	TitanX	matrix_sum_coalesced	5120	16
## 2597	GTX-980	matrix_sum_coalesced	4352	16
## 2598	GTX-980	matrix_sum_coalesced	4608	16
## 2599	GTX-980	matrix_sum_coalesced	4864	16
## 2600	GTX-980	matrix_sum_coalesced	5120	16
## 3725	GTX-970	matrix_sum_coalesced	4352	16
## 3726	GTX-970	matrix_sum_coalesced	4608	16
## 3727	GTX-970	matrix_sum_coalesced	4864	16
## 3728	GTX-970	matrix_sum_coalesced	5120	16

## 628	GTX-750	dotProd	54525952	256
## 629	GTX-750	dotProd	58720256	256
## 630	GTX-750	dotProd	62914560	256
## 631	GTX-750	dotProd	67108864	256
## 1603	TitanX	dotProd	54525952	256
## 1604	TitanX	dotProd	58720256	256
## 1605	TitanX	dotProd	62914560	256
## 1606	TitanX	dotProd	67108864	256
## 2731	GTX-980	dotProd	54525952	256
## 2732	GTX-980	dotProd	58720256	256
## 2733	GTX-980	dotProd	62914560	256
## 2734	GTX-980	dotProd	67108864	256
## 3859	GTX-970	dotProd	54525952	256
## 3860	GTX-970	dotProd	58720256	256
## 3861	GTX-970	dotProd	62914560	256
## 3862	GTX-970	dotProd	67108864	256
## 720	GTX-750	vectorAdd	54525952	256
## 721	GTX-750	vectorAdd	58720256	256
## 722	GTX-750	vectorAdd	62914560	256
## 723	GTX-750	vectorAdd	67108864	256
## 1810	TitanX	vectorAdd	54525952	256
## 1811	TitanX	vectorAdd	58720256	256
## 1812	TitanX	vectorAdd	62914560	256
## 1813	TitanX	vectorAdd	67108864	256
## 2938	GTX-980	vectorAdd	54525952	256
## 2939	GTX-980	vectorAdd	58720256	256
## 2940	GTX-980	vectorAdd	62914560	256
## 2941	GTX-980	vectorAdd	67108864	256
## 4066	GTX-970	vectorAdd	54525952	256
## 4067	GTX-970	vectorAdd	58720256	256
## 4068	GTX-970	vectorAdd	62914560	256
## 4069	GTX-970	vectorAdd	67108864	256
## 768	GTX-750	subSeqMax	54525952	128
## 769	GTX-750	subSeqMax	58720256	128
## 770	GTX-750	subSeqMax	62914560	128
## 771	GTX-750	subSeqMax	67108864	128
## 831	GTX-750	subSeqMax	54525952	128
## 832	GTX-750	subSeqMax	58720256	128
## 833	GTX-750	subSeqMax	62914560	128
## 834	GTX-750	subSeqMax	67108864	128
## 1948	TitanX	subSeqMax	54525952	128
## 1949	TitanX	subSeqMax	58720256	128
## 1950	TitanX	subSeqMax	62914560	128
## 1951	TitanX	subSeqMax	67108864	128
## 2017	TitanX	subSeqMax	54525952	128
## 2018	TitanX	subSeqMax	58720256	128
## 2019	TitanX	subSeqMax	62914560	128
## 2020	TitanX	subSeqMax	67108864	128
## 3076	GTX-980	subSeqMax	54525952	128
## 3077	GTX-980	subSeqMax	58720256	128
## 3078	GTX-980	subSeqMax	62914560	128
## 3079	GTX-980	subSeqMax	67108864	128
## 3145	GTX-980	subSeqMax	54525952	128
## 3146	GTX-980	subSeqMax	58720256	128

##	3147	GTX-980		subSeqMax	62914560	128	
##	3148	GTX-980		subSeqMax	67108864	128	
##	4204	GTX-970		subSeqMax	54525952	128	
##	4205	GTX-970		subSeqMax	58720256	128	
##	4206	GTX-970		subSeqMax	62914560	128	
##	4207	GTX-970		subSeqMax	67108864	128	
##	4273	GTX-970		subSeqMax	54525952	128	
##	4274	GTX-970		subSeqMax	58720256	128	
##	4275	GTX-970		subSeqMax	62914560	128	
##	4276	GTX-970		subSeqMax	67108864	128	
##		Duration predictions	Duration.1	AccMin	AccMax	AccMean	
##	41	1.636687000	1.277353495	0.7804507	0.7116401	1.216956	0.8589118
##	42	2.527365000	1.802431192	0.7131662	0.7116401	1.216956	0.8589118
##	43	2.966659000	2.111193508	0.7116401	0.7116401	1.216956	0.8589118
##	1092	1.202731000	1.021334358	0.8491794	0.7116401	1.216956	0.8589118
##	2220	1.459649000	1.145900850	0.7850523	0.7116401	1.216956	0.8589118
##	3348	0.905174000	1.101556713	1.2169558	0.7116401	1.216956	0.8589118
##	4476	1.137064000	1.087418791	0.9563391	0.7116401	1.216956	0.8589118
##	5604	1.336934000	1.147771905	0.8585105	0.7116401	1.216956	0.8589118
##	137	0.374780000	0.304415355	0.8122508	0.8114371	1.346370	1.0570461
##	138	0.514793000	0.429129945	0.8335971	0.8114371	1.346370	1.0570461
##	139	0.683421000	0.554553137	0.8114371	0.8114371	1.346370	1.0570461
##	140	0.879492000	0.735705580	0.8365120	0.8114371	1.346370	1.0570461
##	141	1.118057000	0.913417044	0.8169682	0.8114371	1.346370	1.0570461
##	142	1.396491000	1.185837877	0.8491554	0.8114371	1.346370	1.0570461
##	143	1.718229000	1.395556630	0.8122064	0.8114371	1.346370	1.0570461
##	1188	0.264226000	0.312601624	1.1830843	0.8114371	1.346370	1.0570461
##	1189	0.362266000	0.429901944	1.1867024	0.8114371	1.346370	1.0570461
##	1190	0.482195000	0.542621094	1.1253146	0.8114371	1.346370	1.0570461
##	1191	0.626173000	0.694739139	1.1095003	0.8114371	1.346370	1.0570461
##	1192	0.796210000	0.892185473	1.1205404	0.8114371	1.346370	1.0570461
##	1193	0.994182000	1.161641611	1.1684396	0.8114371	1.346370	1.0570461
##	1194	1.223097000	1.383148027	1.1308572	0.8114371	1.346370	1.0570461
##	2316	0.299051000	0.313865227	1.0495375	0.8114371	1.346370	1.0570461
##	2317	0.409295000	0.433307131	1.0586671	0.8114371	1.346370	1.0570461
##	2318	0.544857000	0.563501816	1.0342196	0.8114371	1.346370	1.0570461
##	2319	0.707200000	0.697732739	0.9866130	0.8114371	1.346370	1.0570461
##	2320	0.899153000	0.902726969	1.0039748	0.8114371	1.346370	1.0570461
##	2321	1.123033000	1.176668051	1.0477591	0.8114371	1.346370	1.0570461
##	2322	1.381198000	1.421906364	1.0294732	0.8114371	1.346370	1.0570461
##	3444	0.224132000	0.272885793	1.2175227	0.8114371	1.346370	1.0570461
##	3445	0.296869000	0.381658761	1.2856134	0.8114371	1.346370	1.0570461
##	3446	0.381658000	0.490966893	1.2864054	0.8114371	1.346370	1.0570461
##	3447	0.503568000	0.616165344	1.2235991	0.8114371	1.346370	1.0570461
##	3448	0.621133000	0.787954081	1.2685755	0.8114371	1.346370	1.0570461
##	3449	0.760187000	1.023493159	1.3463702	0.8114371	1.346370	1.0570461
##	3450	0.945768000	1.226626529	1.2969635	0.8114371	1.346370	1.0570461
##	4572	0.227150000	0.260057799	1.1448725	0.8114371	1.346370	1.0570461
##	4573	0.311409000	0.364084223	1.1691513	0.8114371	1.346370	1.0570461
##	4574	0.414482000	0.488488460	1.1785517	0.8114371	1.346370	1.0570461
##	4575	0.538143000	0.607596007	1.1290605	0.8114371	1.346370	1.0570461
##	4576	0.684050000	0.754767973	1.1033813	0.8114371	1.346370	1.0570461
##	4577	0.854398000	1.004909745	1.1761612	0.8114371	1.346370	1.0570461
##	4578	1.050754000	1.253111857	1.1925835	0.8114371	1.346370	1.0570461

##	5684	0.340836000	0.280010988	0.8215417	0.8114371	1.346370	1.0570461
##	5685	0.434285000	0.401808044	0.9252174	0.8114371	1.346370	1.0570461
##	5686	0.555492000	0.515350589	0.9277372	0.8114371	1.346370	1.0570461
##	5687	0.741559000	0.640609272	0.8638682	0.8114371	1.346370	1.0570461
##	5688	0.913348000	0.820241174	0.8980599	0.8114371	1.346370	1.0570461
##	5689	1.120093000	1.090372241	0.9734658	0.8114371	1.346370	1.0570461
##	5690	1.365809000	1.311753598	0.9604224	0.8114371	1.346370	1.0570461
##	233	0.380128000	0.339455656	0.8930036	0.8930036	1.516786	1.0860216
##	234	0.524882000	0.487342043	0.9284792	0.8930036	1.516786	1.0860216
##	235	0.694673000	0.641342154	0.9232288	0.8930036	1.516786	1.0860216
##	236	0.913443000	0.880964137	0.9644435	0.8930036	1.516786	1.0860216
##	237	1.148747000	1.058840490	0.9217352	0.8930036	1.516786	1.0860216
##	238	1.442796000	1.344110397	0.9316011	0.8930036	1.516786	1.0860216
##	239	1.765668000	1.668882748	0.9451849	0.8930036	1.516786	1.0860216
##	1284	0.288179000	0.306424912	1.0633145	0.8930036	1.516786	1.0860216
##	1285	0.395283000	0.441897453	1.1179268	0.8930036	1.516786	1.0860216
##	1286	0.526109000	0.592660411	1.1264974	0.8930036	1.516786	1.0860216
##	1287	0.683337000	0.797985082	1.1677768	0.8930036	1.516786	1.0860216
##	1288	0.868353000	0.939783704	1.0822600	0.8930036	1.516786	1.0860216
##	1289	1.084126000	1.205687149	1.1121282	0.8930036	1.516786	1.0860216
##	1290	1.334499000	1.513374072	1.1340391	0.8930036	1.516786	1.0860216
##	2412	0.366481000	0.328404864	0.8961034	0.8930036	1.516786	1.0860216
##	2413	0.502725000	0.484009363	0.9627716	0.8930036	1.516786	1.0860216
##	2414	0.669798000	0.640827783	0.9567478	0.8930036	1.516786	1.0860216
##	2415	0.869264000	0.859068411	0.9882710	0.8930036	1.516786	1.0860216
##	2416	1.104777000	1.033895711	0.9358411	0.8930036	1.516786	1.0860216
##	2417	1.379485000	1.319546531	0.9565501	0.8930036	1.516786	1.0860216
##	2418	1.696333000	1.660712507	0.9790015	0.8930036	1.516786	1.0860216
##	3540	0.240605000	0.299782241	1.2459518	0.8930036	1.516786	1.0860216
##	3541	0.318879000	0.426497952	1.3374915	0.8930036	1.516786	1.0860216
##	3542	0.408939000	0.570572756	1.3952515	0.8930036	1.516786	1.0860216
##	3543	0.515475000	0.751416241	1.4577162	0.8930036	1.516786	1.0860216
##	3544	0.664641000	0.911400679	1.3712676	0.8930036	1.516786	1.0860216
##	3545	0.810407000	1.159326281	1.4305482	0.8930036	1.516786	1.0860216
##	3546	0.959640000	1.455568604	1.5167861	0.8930036	1.516786	1.0860216
##	4668	0.291909000	0.308434251	1.0566110	0.8930036	1.516786	1.0860216
##	4669	0.400074000	0.460024511	1.1498486	0.8930036	1.516786	1.0860216
##	4670	0.532454000	0.607064515	1.1401257	0.8930036	1.516786	1.0860216
##	4671	0.691490000	0.802516183	1.1605608	0.8930036	1.516786	1.0860216
##	4672	0.879319000	0.984063075	1.1191195	0.8930036	1.516786	1.0860216
##	4673	1.097321000	1.261129300	1.1492802	0.8930036	1.516786	1.0860216
##	4674	1.351160000	1.570040153	1.1619943	0.8930036	1.516786	1.0860216
##	5764	0.348866000	0.314564174	0.9016762	0.8930036	1.516786	1.0860216
##	5765	0.472184000	0.448498663	0.9498388	0.8930036	1.516786	1.0860216
##	5766	0.626404000	0.591878052	0.9448823	0.8930036	1.516786	1.0860216
##	5767	0.764010000	0.811012193	1.0615204	0.8930036	1.516786	1.0860216
##	5768	0.985386000	0.973879006	0.9883223	0.8930036	1.516786	1.0860216
##	5769	1.202378000	1.242179016	1.0331019	0.8930036	1.516786	1.0860216
##	5770	1.470693000	1.550264910	1.0541050	0.8930036	1.516786	1.0860216
##	329	0.113854000	0.116129497	1.0199861	0.9736032	1.533253	1.1882527
##	330	0.147237000	0.159424188	1.0827726	0.9736032	1.533253	1.1882527
##	331	0.195781000	0.205835318	1.0513549	0.9736032	1.533253	1.1882527
##	332	0.254341000	0.275292109	1.0823741	0.9736032	1.533253	1.1882527
##	333	0.324093000	0.364736952	1.1254083	0.9736032	1.533253	1.1882527

##	334	0.403502000	0.433305935	1.0738632	0.9736032	1.533253	1.1882527
##	335	0.498468000	0.513671270	1.0305000	0.9736032	1.533253	1.1882527
##	1380	0.086220000	0.121540571	1.4096564	0.9736032	1.533253	1.1882527
##	1381	0.118292000	0.166037664	1.4036255	0.9736032	1.533253	1.1882527
##	1382	0.157389000	0.214696446	1.3641134	0.9736032	1.533253	1.1882527
##	1383	0.204372000	0.282744226	1.3834783	0.9736032	1.533253	1.1882527
##	1384	0.259411000	0.371517472	1.4321577	0.9736032	1.533253	1.1882527
##	1385	0.324119000	0.431710329	1.3319501	0.9736032	1.533253	1.1882527
##	1386	0.398570000	0.497732692	1.2487962	0.9736032	1.533253	1.1882527
##	2508	0.121582000	0.128379090	1.0559054	0.9736032	1.533253	1.1882527
##	2509	0.166761000	0.175791241	1.0541508	0.9736032	1.533253	1.1882527
##	2510	0.221944000	0.229340262	1.0333249	0.9736032	1.533253	1.1882527
##	2511	0.288065000	0.298157933	1.0350370	0.9736032	1.533253	1.1882527
##	2512	0.366095000	0.399375400	1.0909065	0.9736032	1.533253	1.1882527
##	2513	0.457084000	0.463560108	1.0141683	0.9736032	1.533253	1.1882527
##	2514	0.561818000	0.551335479	0.9813418	0.9736032	1.533253	1.1882527
##	3636	0.073970000	0.112332576	1.5186234	0.9736032	1.533253	1.1882527
##	3637	0.101282000	0.152779910	1.5084606	0.9736032	1.533253	1.1882527
##	3638	0.133007000	0.197620789	1.4857924	0.9736032	1.533253	1.1882527
##	3639	0.174948000	0.252813591	1.4450785	0.9736032	1.533253	1.1882527
##	3640	0.217713000	0.333809143	1.5332532	0.9736032	1.533253	1.1882527
##	3641	0.263154000	0.396087179	1.5051536	0.9736032	1.533253	1.1882527
##	3642	0.332205000	0.455533649	1.3712426	0.9736032	1.533253	1.1882527
##	4764	0.095402000	0.114973376	1.2051464	0.9736032	1.533253	1.1882527
##	4765	0.130779000	0.155628432	1.1900109	0.9736032	1.533253	1.1882527
##	4766	0.174075000	0.203706070	1.1702201	0.9736032	1.533253	1.1882527
##	4767	0.225923000	0.257792194	1.1410622	0.9736032	1.533253	1.1882527
##	4768	0.286943000	0.348477201	1.2144475	0.9736032	1.533253	1.1882527
##	4769	0.358344000	0.416393805	1.1619946	0.9736032	1.533253	1.1882527
##	4770	0.440480000	0.483128250	1.0968222	0.9736032	1.533253	1.1882527
##	5844	0.120361000	0.118009909	0.9804663	0.9736032	1.533253	1.1882527
##	5845	0.164099000	0.159767310	0.9736032	0.9736032	1.533253	1.1882527
##	5846	0.202779000	0.205943248	1.0156044	0.9736032	1.533253	1.1882527
##	5847	0.258832000	0.264242439	1.0209033	0.9736032	1.533253	1.1882527
##	5848	0.344553000	0.354541927	1.0289910	0.9736032	1.533253	1.1882527
##	5849	0.406234000	0.417584405	1.0279406	0.9736032	1.533253	1.1882527
##	5850	0.486006000	0.489371672	1.0069252	0.9736032	1.533253	1.1882527
##	433	0.015133000	0.017123481	1.1315325	0.7708122	1.760037	1.2986951
##	434	0.054909000	0.045556588	0.8296743	0.7708122	1.760037	1.2986951
##	435	0.009642160	0.014816003	1.5365855	0.7708122	1.760037	1.2986951
##	436	0.040864000	0.033065590	0.8091619	0.7708122	1.760037	1.2986951
##	1484	0.004974217	0.007192523	1.4459608	0.7708122	1.760037	1.2986951
##	1485	0.008113689	0.010426167	1.2850095	0.7708122	1.760037	1.2986951
##	1486	0.006205538	0.008634881	1.3914799	0.7708122	1.760037	1.2986951
##	1487	0.007296475	0.009549477	1.3087795	0.7708122	1.760037	1.2986951
##	2612	0.005843750	0.007448608	1.2746280	0.7708122	1.760037	1.2986951
##	2613	0.006676408	0.009499846	1.4228978	0.7708122	1.760037	1.2986951
##	2614	0.007321895	0.009005300	1.2299138	0.7708122	1.760037	1.2986951
##	2615	0.008550664	0.009902991	1.1581547	0.7708122	1.760037	1.2986951
##	3740	0.004307728	0.007514679	1.7444646	0.7708122	1.760037	1.2986951
##	3741	0.006224535	0.010443940	1.6778667	0.7708122	1.760037	1.2986951
##	3742	0.005384564	0.008990159	1.6696170	0.7708122	1.760037	1.2986951
##	3743	0.006138967	0.009442751	1.5381662	0.7708122	1.760037	1.2986951
##	4868	0.004633854	0.008155753	1.7600367	0.7708122	1.760037	1.2986951

##	4869	0.006173907	0.009132787	1.4792557	0.7708122	1.760037	1.2986951
##	4870	0.005785644	0.009336240	1.6136908	0.7708122	1.760037	1.2986951
##	4871	0.006522581	0.010047775	1.5404600	0.7708122	1.760037	1.2986951
##	5979	0.006783762	0.007949538	1.1718480	0.7708122	1.760037	1.2986951
##	5980	0.011102000	0.011745310	1.0579454	0.7708122	1.760037	1.2986951
##	5981	0.007678936	0.009742070	1.2686745	0.7708122	1.760037	1.2986951
##	5982	0.050581000	0.038988450	0.7708122	0.7708122	1.760037	1.2986951
##	5983	0.009152354	0.011965321	1.3073490	0.7708122	1.760037	1.2986951
##	5984	0.010798000	0.012092778	1.1199091	0.7708122	1.760037	1.2986951
##	5985	0.009831627	0.011758445	1.1959816	0.7708122	1.760037	1.2986951
##	5986	0.038665000	0.030045736	0.7770784	0.7708122	1.760037	1.2986951
##	5987	0.011055000	0.012660458	1.1452246	0.7708122	1.760037	1.2986951
##	529	0.001542298	0.001652592	1.0715130	0.8447854	1.426586	1.0908218
##	530	0.001735640	0.001900654	1.0950740	0.8447854	1.426586	1.0908218
##	531	0.002015126	0.002100133	1.0421845	0.8447854	1.426586	1.0908218
##	532	0.002164981	0.002317911	1.0706380	0.8447854	1.426586	1.0908218
##	1580	0.001350651	0.001612384	1.1937830	0.8447854	1.426586	1.0908218
##	1581	0.001542202	0.001832766	1.1884084	0.8447854	1.426586	1.0908218
##	1582	0.001736249	0.002010892	1.1581818	0.8447854	1.426586	1.0908218
##	1583	0.001929304	0.002214765	1.1479608	0.8447854	1.426586	1.0908218
##	2708	0.001669031	0.001735297	1.0397034	0.8447854	1.426586	1.0908218
##	2709	0.001935789	0.001967276	1.0162657	0.8447854	1.426586	1.0908218
##	2710	0.002176882	0.002255808	1.0362562	0.8447854	1.426586	1.0908218
##	2711	0.002421368	0.002445140	1.0098174	0.8447854	1.426586	1.0908218
##	3836	0.001066693	0.001476943	1.3845995	0.8447854	1.426586	1.0908218
##	3837	0.001167526	0.001665577	1.4265863	0.8447854	1.426586	1.0908218
##	3838	0.001301318	0.001816073	1.3955640	0.8447854	1.426586	1.0908218
##	3839	0.001438951	0.001963600	1.3646052	0.8447854	1.426586	1.0908218
##	4964	0.001102416	0.001442071	1.3081001	0.8447854	1.426586	1.0908218
##	4965	0.001218066	0.001644435	1.3500379	0.8447854	1.426586	1.0908218
##	4966	0.001353043	0.001778839	1.3146949	0.8447854	1.426586	1.0908218
##	4967	0.001489173	0.001903412	1.2781672	0.8447854	1.426586	1.0908218
##	6138	0.001724688	0.001456991	0.8447854	0.8447854	1.426586	1.0908218
##	6139	0.001832944	0.001616447	0.8818857	0.8447854	1.426586	1.0908218
##	6140	0.001989393	0.001691657	0.8503384	0.8447854	1.426586	1.0908218
##	6141	0.002110578	0.001832037	0.8680263	0.8447854	1.426586	1.0908218
##	6142	0.002199315	0.001878997	0.8543556	0.8447854	1.426586	1.0908218
##	6143	0.002327219	0.002020467	0.8681892	0.8447854	1.426586	1.0908218
##	6144	0.002450580	0.002108438	0.8603834	0.8447854	1.426586	1.0908218
##	6145	0.002575862	0.002238075	0.8688645	0.8447854	1.426586	1.0908218
##	6146	0.002711319	0.002290692	0.8448626	0.8447854	1.426586	1.0908218
##	660	0.009615224	0.011293933	1.1745886	1.0032162	1.630614	1.2888633
##	661	0.010373000	0.011964939	1.1534695	1.0032162	1.630614	1.2888633
##	662	0.011091000	0.012243184	1.1038846	1.0032162	1.630614	1.2888633
##	663	0.011854000	0.012248583	1.0332869	1.0032162	1.630614	1.2888633
##	1714	0.006982406	0.010141717	1.4524674	1.0032162	1.630614	1.2888633
##	1715	0.007504611	0.010537485	1.4041347	1.0032162	1.630614	1.2888633
##	1716	0.008063489	0.010703496	1.3274025	1.0032162	1.630614	1.2888633
##	1717	0.008594749	0.010620577	1.2357053	1.0032162	1.630614	1.2888633
##	2842	0.008067644	0.011126800	1.3791883	1.0032162	1.630614	1.2888633
##	2843	0.008695369	0.011514173	1.3241730	1.0032162	1.630614	1.2888633
##	2844	0.009326425	0.011738207	1.2585966	1.0032162	1.630614	1.2888633
##	2845	0.009938023	0.011638904	1.1711488	1.0032162	1.630614	1.2888633
##	3970	0.005869147	0.009570313	1.6306140	1.0032162	1.630614	1.2888633

##	3971	0.006323071	0.009853499	1.5583407	1.0032162	1.630614	1.2888633
##	3972	0.006772258	0.010137594	1.4969296	1.0032162	1.630614	1.2888633
##	3973	0.007218566	0.009785629	1.3556195	1.0032162	1.630614	1.2888633
##	5098	0.006599942	0.009681540	1.4669130	1.0032162	1.630614	1.2888633
##	5099	0.007109138	0.010103131	1.4211471	1.0032162	1.630614	1.2888633
##	5100	0.007616503	0.010273068	1.3487907	1.0032162	1.630614	1.2888633
##	5101	0.008119809	0.010284056	1.2665391	1.0032162	1.630614	1.2888633
##	6288	0.009522825	0.011129808	1.1687507	1.0032162	1.630614	1.2888633
##	6289	0.010274000	0.011462325	1.1156633	1.0032162	1.630614	1.2888633
##	6290	0.010978000	0.011879832	1.0821491	1.0032162	1.630614	1.2888633
##	6291	0.011747000	0.011784781	1.0032162	1.0032162	1.630614	1.2888633
##	840	0.004169039	0.004842021	1.1614238	0.8450341	1.399460	1.1431895
##	841	0.004489196	0.005147571	1.1466577	0.8450341	1.399460	1.1431895
##	842	0.004854599	0.005423015	1.1170881	0.8450341	1.399460	1.1431895
##	843	0.005156067	0.005677838	1.1011955	0.8450341	1.399460	1.1431895
##	1921	0.003621102	0.004286058	1.1836335	0.8450341	1.399460	1.1431895
##	1922	0.003887852	0.004607949	1.1852172	0.8450341	1.399460	1.1431895
##	1923	0.004176939	0.004808830	1.1512810	0.8450341	1.399460	1.1431895
##	1924	0.004443464	0.005051755	1.1368956	0.8450341	1.399460	1.1431895
##	3049	0.004637512	0.004787846	1.0324169	0.8450341	1.399460	1.1431895
##	3050	0.004953998	0.005109594	1.0314082	0.8450341	1.399460	1.1431895
##	3051	0.005271317	0.005471580	1.0379911	0.8450341	1.399460	1.1431895
##	3052	0.005670462	0.005731159	1.0107040	0.8450341	1.399460	1.1431895
##	4177	0.002872223	0.003975386	1.3840797	0.8450341	1.399460	1.1431895
##	4178	0.003088577	0.004322341	1.3994602	0.8450341	1.399460	1.1431895
##	4179	0.003303555	0.004426878	1.3400346	0.8450341	1.399460	1.1431895
##	4180	0.003521990	0.004600785	1.3063026	0.8450341	1.399460	1.1431895
##	5305	0.002935339	0.003885196	1.3235938	0.8450341	1.399460	1.1431895
##	5306	0.003147694	0.004086637	1.2982954	0.8450341	1.399460	1.1431895
##	5307	0.003353489	0.004341102	1.2945031	0.8450341	1.399460	1.1431895
##	5308	0.003580532	0.004506718	1.2586727	0.8450341	1.399460	1.1431895
##	6495	0.005239573	0.004802683	0.9166173	0.8450341	1.399460	1.1431895
##	6496	0.005639641	0.005102819	0.9048127	0.8450341	1.399460	1.1431895
##	6497	0.006018396	0.005231367	0.8692295	0.8450341	1.399460	1.1431895
##	6498	0.006442048	0.005443750	0.8450341	0.8450341	1.399460	1.1431895
##	931	0.029188000	0.030034780	1.0290112	0.8038557	1.271180	1.0486478
##	932	0.031449000	0.030738104	0.9773953	0.8038557	1.271180	1.0486478
##	933	0.033697000	0.040547294	1.2032909	0.8038557	1.271180	1.0486478
##	934	0.035910000	0.042918839	1.1951779	0.8038557	1.271180	1.0486478
##	1000	0.029188000	0.030034780	1.0290112	0.8038557	1.271180	1.0486478
##	1001	0.031449000	0.030738104	0.9773953	0.8038557	1.271180	1.0486478
##	1002	0.033697000	0.040547294	1.2032909	0.8038557	1.271180	1.0486478
##	1003	0.035910000	0.042918839	1.1951779	0.8038557	1.271180	1.0486478
##	2059	0.030794000	0.030017419	0.9747814	0.8038557	1.271180	1.0486478
##	2060	0.033193000	0.030712447	0.9252688	0.8038557	1.271180	1.0486478
##	2061	0.035535000	0.041478154	1.1672479	0.8038557	1.271180	1.0486478
##	2062	0.037926000	0.042401975	1.1180186	0.8038557	1.271180	1.0486478
##	2128	0.030794000	0.030017419	0.9747814	0.8038557	1.271180	1.0486478
##	2129	0.033193000	0.030712447	0.9252688	0.8038557	1.271180	1.0486478
##	2130	0.035535000	0.041478154	1.1672479	0.8038557	1.271180	1.0486478
##	2131	0.037926000	0.042401975	1.1180186	0.8038557	1.271180	1.0486478
##	3187	0.034607000	0.032279218	0.9327367	0.8038557	1.271180	1.0486478
##	3188	0.037323000	0.032758302	0.8776974	0.8038557	1.271180	1.0486478
##	3189	0.039940000	0.044143461	1.1052444	0.8038557	1.271180	1.0486478

##	3190	0.042601000	0.044809158	1.0518335	0.8038557	1.271180	1.0486478
##	3256	0.034607000	0.032279218	0.9327367	0.8038557	1.271180	1.0486478
##	3257	0.037323000	0.032758302	0.8776974	0.8038557	1.271180	1.0486478
##	3258	0.039940000	0.044143461	1.1052444	0.8038557	1.271180	1.0486478
##	3259	0.042601000	0.044809158	1.0518335	0.8038557	1.271180	1.0486478
##	4315	0.026058000	0.027551425	1.0573116	0.8038557	1.271180	1.0486478
##	4316	0.028112000	0.028348106	1.0083988	0.8038557	1.271180	1.0486478
##	4317	0.030086000	0.038244734	1.2711804	0.8038557	1.271180	1.0486478
##	4318	0.032064000	0.038686826	1.2065502	0.8038557	1.271180	1.0486478
##	4384	0.026058000	0.027551425	1.0573116	0.8038557	1.271180	1.0486478
##	4385	0.028112000	0.028348106	1.0083988	0.8038557	1.271180	1.0486478
##	4386	0.030086000	0.038244734	1.2711804	0.8038557	1.271180	1.0486478
##	4387	0.032064000	0.038686826	1.2065502	0.8038557	1.271180	1.0486478
##	5443	0.027452000	0.027833841	1.0139094	0.8038557	1.271180	1.0486478
##	5444	0.029542000	0.028746374	0.9730680	0.8038557	1.271180	1.0486478
##	5445	0.031696000	0.038433616	1.2125699	0.8038557	1.271180	1.0486478
##	5446	0.033787000	0.039717454	1.1755247	0.8038557	1.271180	1.0486478
##	5512	0.027452000	0.027833841	1.0139094	0.8038557	1.271180	1.0486478
##	5513	0.029542000	0.028746374	0.9730680	0.8038557	1.271180	1.0486478
##	5514	0.031696000	0.038433616	1.2125699	0.8038557	1.271180	1.0486478
##	5515	0.033787000	0.039717454	1.1755247	0.8038557	1.271180	1.0486478
##	6633	0.034230000	0.029643918	0.8660216	0.8038557	1.271180	1.0486478
##	6634	0.036821000	0.029598772	0.8038557	0.8038557	1.271180	1.0486478
##	6635	0.039562000	0.040456974	1.0226221	0.8038557	1.271180	1.0486478
##	6636	0.042107000	0.042057770	0.9988308	0.8038557	1.271180	1.0486478
##	6702	0.034230000	0.029643918	0.8660216	0.8038557	1.271180	1.0486478
##	6703	0.036821000	0.029598772	0.8038557	0.8038557	1.271180	1.0486478
##	6704	0.039562000	0.040456974	1.0226221	0.8038557	1.271180	1.0486478
##	6705	0.042107000	0.042057770	0.9988308	0.8038557	1.271180	1.0486478
##	411	1.526565000	1.211972561	0.7939214	0.4395320	3.166230	1.5410732
##	421	2.092922000	1.205474585	0.5759768	0.4395320	3.166230	1.5410732
##	431	2.787420000	1.381648675	0.4956729	0.4395320	3.166230	1.5410732
##	44	3.612343000	1.587740218	0.4395320	0.4395320	3.166230	1.5410732
##	917	0.332986000	1.054310277	3.1662300	0.4395320	3.166230	1.5410732
##	918	0.430690000	0.947629302	2.2002584	0.4395320	3.166230	1.5410732
##	919	0.557312000	1.112813189	1.9967508	0.4395320	3.166230	1.5410732
##	920	0.705082000	1.453000258	2.0607536	0.4395320	3.166230	1.5410732
##	921	0.922162000	1.648554910	1.7877064	0.4395320	3.166230	1.5410732
##	922	1.119760000	1.868979036	1.6690889	0.4395320	3.166230	1.5410732
##	923	1.385346000	2.006483076	1.4483624	0.4395320	3.166230	1.5410732
##	2109	0.348456000	0.955194900	2.7412210	0.4395320	3.166230	1.5410732
##	2110	0.477743000	0.888808005	1.8604312	0.4395320	3.166230	1.5410732
##	2111	0.635646000	1.075438256	1.6918824	0.4395320	3.166230	1.5410732
##	2112	0.825602000	1.364476022	1.6527044	0.4395320	3.166230	1.5410732
##	2113	1.049856000	1.599988163	1.5240073	0.4395320	3.166230	1.5410732
##	2114	1.312091000	1.791650637	1.3654927	0.4395320	3.166230	1.5410732
##	2115	1.612942000	1.897910036	1.1766759	0.4395320	3.166230	1.5410732
##	3237	0.487501000	0.966691214	1.9829523	0.4395320	3.166230	1.5410732
##	3238	0.658732000	1.003325118	1.5231158	0.4395320	3.166230	1.5410732
##	3239	0.834033000	1.201549715	1.4406501	0.4395320	3.166230	1.5410732
##	3240	1.064739000	1.506314927	1.4147269	0.4395320	3.166230	1.5410732
##	3241	1.351378000	1.764274828	1.3055376	0.4395320	3.166230	1.5410732
##	3242	1.635918000	1.983251993	1.2123175	0.4395320	3.166230	1.5410732
##	3243	2.081551000	2.083342747	1.0008608	0.4395320	3.166230	1.5410732

##	1371	0.427019000	0.333089244	0.7800338	0.7720297	2.914615	1.8963338
##	1387	0.581948000	0.473055748	0.8128832	0.7720297	2.914615	1.8963338
##	1391	0.777156000	0.625761630	0.8051944	0.7720297	2.914615	1.8963338
##	1401	1.012151000	0.790309437	0.7808217	0.7720297	2.914615	1.8963338
##	1411	1.287280000	1.056604247	0.8208037	0.7720297	2.914615	1.8963338
##	1421	1.603741000	1.270125215	0.7919765	0.7720297	2.914615	1.8963338
##	1431	1.977930000	1.527020763	0.7720297	0.7720297	2.914615	1.8963338
##	1013	0.088341000	0.237442865	2.6877992	0.7720297	2.914615	1.8963338
##	1014	0.117586000	0.335350730	2.8519614	0.7720297	2.914615	1.8963338
##	1015	0.160417000	0.462402189	2.8825012	0.7720297	2.914615	1.8963338
##	1016	0.197848000	0.560896533	2.8349871	0.7720297	2.914615	1.8963338
##	1017	0.244990000	0.714051488	2.9146148	0.7720297	2.914615	1.8963338
##	1018	0.314030000	0.791379480	2.5200760	0.7720297	2.914615	1.8963338
##	1019	0.378562000	0.845535274	2.2335450	0.7720297	2.914615	1.8963338
##	2205	0.098118000	0.227606429	2.3197214	0.7720297	2.914615	1.8963338
##	2206	0.134374000	0.336522188	2.5043698	0.7720297	2.914615	1.8963338
##	2207	0.177049000	0.443835857	2.5068532	0.7720297	2.914615	1.8963338
##	2208	0.233936000	0.536675036	2.2941105	0.7720297	2.914615	1.8963338
##	2209	0.304003000	0.696824618	2.2921636	0.7720297	2.914615	1.8963338
##	2210	0.391221000	0.813597612	2.0796369	0.7720297	2.914615	1.8963338
##	2211	0.496260000	0.906634270	1.8269340	0.7720297	2.914615	1.8963338
##	3333	0.133473000	0.243225723	1.8222841	0.7720297	2.914615	1.8963338
##	3334	0.184036000	0.349518429	1.8991851	0.7720297	2.914615	1.8963338
##	3335	0.237106000	0.448257495	1.8905363	0.7720297	2.914615	1.8963338
##	3336	0.299905000	0.549379633	1.8318455	0.7720297	2.914615	1.8963338
##	3337	0.372982000	0.703625314	1.8864860	0.7720297	2.914615	1.8963338
##	3338	0.453481000	0.802769900	1.7702393	0.7720297	2.914615	1.8963338
##	3339	0.576876000	0.971316501	1.6837527	0.7720297	2.914615	1.8963338
##	2331	0.501912000	0.365772272	0.7287578	0.6042624	2.450473	1.5957661
##	2341	0.688407000	0.492728849	0.7157522	0.6042624	2.450473	1.5957661
##	2351	0.916252000	0.652796058	0.7124634	0.6042624	2.450473	1.5957661
##	2361	1.189624000	0.889622373	0.7478181	0.6042624	2.450473	1.5957661
##	2371	1.512510000	1.167920882	0.7721740	0.6042624	2.450473	1.5957661
##	2381	1.889226000	1.354315147	0.7168624	0.6042624	2.450473	1.5957661
##	2391	2.323235000	1.403843539	0.6042624	0.6042624	2.450473	1.5957661
##	1109	0.102078000	0.224000356	2.1944038	0.6042624	2.450473	1.5957661
##	1110	0.138299000	0.302931991	2.1904135	0.6042624	2.450473	1.5957661
##	1111	0.177793000	0.431361370	2.4262000	0.6042624	2.450473	1.5957661
##	1112	0.236808000	0.537067627	2.2679455	0.6042624	2.450473	1.5957661
##	1113	0.291383000	0.714026039	2.4504725	0.6042624	2.450473	1.5957661
##	1114	0.347762000	0.810439543	2.3304431	0.6042624	2.450473	1.5957661
##	1115	0.440183000	0.823787658	1.8714663	0.6042624	2.450473	1.5957661
##	2301	0.120849000	0.223375807	1.8483877	0.6042624	2.450473	1.5957661
##	2302	0.165743000	0.306605961	1.8498878	0.6042624	2.450473	1.5957661
##	2303	0.220503000	0.427008334	1.9365194	0.6042624	2.450473	1.5957661
##	2304	0.286358000	0.570679140	1.9928870	0.6042624	2.450473	1.5957661
##	2305	0.363925000	0.731670317	2.0104975	0.6042624	2.450473	1.5957661
##	2306	0.454394000	0.805293953	1.7722372	0.6042624	2.450473	1.5957661
##	2307	0.558987000	0.873776405	1.5631426	0.6042624	2.450473	1.5957661
##	3429	0.160415000	0.241387321	1.5047678	0.6042624	2.450473	1.5957661
##	3430	0.219547000	0.319168743	1.4537604	0.6042624	2.450473	1.5957661
##	3431	0.280861000	0.452227754	1.6101479	0.6042624	2.450473	1.5957661
##	3432	0.343295000	0.594209619	1.7309009	0.6042624	2.450473	1.5957661
##	3433	0.445165000	0.743723305	1.6706689	0.6042624	2.450473	1.5957661

```

## 3434 0.531221000 0.843605245 1.5880495 0.6042624 2.450473 1.5957661
## 3435 0.634651000 0.901306242 1.4201604 0.6042624 2.450473 1.5957661
## 3291 0.156057000 0.131062927 0.8398401 0.8270780 2.832354 1.8497099
## 3301 0.209594000 0.173350581 0.8270780 0.8270780 2.832354 1.8497099
## 3311 0.278304000 0.232623133 0.8358598 0.8270780 2.832354 1.8497099
## 3321 0.361769000 0.314589828 0.8695876 0.8270780 2.832354 1.8497099
## 3331 0.459535000 0.402181570 0.8751925 0.8270780 2.832354 1.8497099
## 3341 0.573788000 0.528565019 0.9211852 0.8270780 2.832354 1.8497099
## 3351 0.706704000 0.597630992 0.8456596 0.8270780 2.832354 1.8497099
## 1205 0.031246000 0.087468658 2.7993554 0.8270780 2.832354 1.8497099
## 1206 0.042814000 0.113642140 2.6543220 0.8270780 2.832354 1.8497099
## 1207 0.057200000 0.151111400 2.6418077 0.8270780 2.832354 1.8497099
## 1208 0.074080000 0.204482503 2.7602930 0.8270780 2.832354 1.8497099
## 1209 0.093730000 0.265476578 2.8323544 0.8270780 2.832354 1.8497099
## 1210 0.118017000 0.299637834 2.5389379 0.8270780 2.832354 1.8497099
## 1211 0.143856000 0.332362998 2.3103868 0.8270780 2.832354 1.8497099
## 2397 0.042362000 0.085468712 2.0175797 0.8270780 2.832354 1.8497099
## 2398 0.058081000 0.119066553 2.0500087 0.8270780 2.832354 1.8497099
## 2399 0.071620000 0.158912943 2.2188347 0.8270780 2.832354 1.8497099
## 2400 0.090709000 0.209949834 2.3145425 0.8270780 2.832354 1.8497099
## 2401 0.115908000 0.261762404 2.2583636 0.8270780 2.832354 1.8497099
## 2402 0.144447000 0.313394043 2.1696127 0.8270780 2.832354 1.8497099
## 2403 0.178692000 0.329930038 1.8463615 0.8270780 2.832354 1.8497099
## 3525 0.048175000 0.084261156 1.7490640 0.8270780 2.832354 1.8497099
## 3526 0.065990000 0.119869042 1.8164728 0.8270780 2.832354 1.8497099
## 3527 0.087888000 0.154806832 1.7614103 0.8270780 2.832354 1.8497099
## 3528 0.113886000 0.218730847 1.9206123 0.8270780 2.832354 1.8497099
## 3529 0.145067000 0.272760727 1.8802397 0.8270780 2.832354 1.8497099
## 3530 0.173402000 0.301284760 1.7374930 0.8270780 2.832354 1.8497099
## 3531 0.223274000 0.334782115 1.4994227 0.8270780 2.832354 1.8497099
## 4331 0.014619000 0.010905627 0.7459899 0.7267068 1.483492 1.1470566
## 4341 0.016479000 0.012371646 0.7507523 0.7267068 1.483492 1.1470566
## 4351 0.018222000 0.013822626 0.7585680 0.7267068 1.483492 1.1470566
## 4361 0.020218000 0.014692559 0.7267068 0.7267068 1.483492 1.1470566
## 1341 0.003130372 0.004643881 1.4834916 0.7267068 1.483492 1.1470566
## 1342 0.003502343 0.005129275 1.4645268 0.7267068 1.483492 1.1470566
## 1343 0.003872585 0.005374574 1.3878518 0.7267068 1.483492 1.1470566
## 1344 0.004318379 0.006149250 1.4239719 0.7267068 1.483492 1.1470566
## 2501 0.004286355 0.005139004 1.1989217 0.7267068 1.483492 1.1470566
## 2502 0.004443852 0.005702906 1.2833248 0.7267068 1.483492 1.1470566
## 2503 0.005015797 0.006126516 1.2214442 0.7267068 1.483492 1.1470566
## 2504 0.005472993 0.006722186 1.2282468 0.7267068 1.483492 1.1470566
## 3629 0.004681238 0.005248456 1.1211683 0.7267068 1.483492 1.1470566
## 3630 0.005097998 0.005887827 1.1549293 0.7267068 1.483492 1.1470566
## 3631 0.005731620 0.006764118 1.1801407 0.7267068 1.483492 1.1470566
## 3632 0.006281978 0.007682043 1.2228702 0.7267068 1.483492 1.1470566
## 5291 0.003484657 0.003236840 0.9288833 0.8966337 1.474989 1.0939353
## 5301 0.003976477 0.003565443 0.8966337 0.8966337 1.474989 1.0939353
## 5311 0.004379826 0.004002501 0.9138492 0.8966337 1.474989 1.0939353
## 5321 0.004779623 0.004292065 0.8979925 0.8966337 1.474989 1.0939353
## 1469 0.000860744 0.001203715 1.3984586 0.8966337 1.474989 1.0939353
## 1470 0.000951721 0.001339267 1.4072057 0.8966337 1.474989 1.0939353
## 1471 0.001059978 0.001468927 1.3858091 0.8966337 1.474989 1.0939353
## 1472 0.001176203 0.001734886 1.4749886 0.8966337 1.474989 1.0939353

```

##	2597	0.001322922	0.001414608	1.0693053	0.8966337	1.474989	1.0939353
##	2598	0.001481284	0.001613664	1.0893683	0.8966337	1.474989	1.0939353
##	2599	0.001656060	0.001864300	1.1257442	0.8966337	1.474989	1.0939353
##	2600	0.001831573	0.001910603	1.0431489	0.8966337	1.474989	1.0939353
##	3725	0.001500680	0.001465399	0.9764903	0.8966337	1.474989	1.0939353
##	3726	0.001688197	0.001600976	0.9483347	0.8966337	1.474989	1.0939353
##	3727	0.001887074	0.001812154	0.9602985	0.8966337	1.474989	1.0939353
##	3728	0.002083135	0.002054916	0.9864534	0.8966337	1.474989	1.0939353
##	628	0.006163960	0.007178107	1.1645285	0.9251432	1.344485	1.1493174
##	629	0.006567501	0.007715085	1.1747367	0.9251432	1.344485	1.1493174
##	630	0.007142128	0.008350092	1.1691323	0.9251432	1.344485	1.1493174
##	631	0.007357529	0.008305875	1.1288947	0.9251432	1.344485	1.1493174
##	1603	0.003866441	0.005195561	1.3437580	0.9251432	1.344485	1.1493174
##	1604	0.004162509	0.005596433	1.3444855	0.9251432	1.344485	1.1493174
##	1605	0.004459728	0.005870840	1.3164121	0.9251432	1.344485	1.1493174
##	1606	0.004756115	0.005999484	1.2614252	0.9251432	1.344485	1.1493174
##	2731	0.004854618	0.005617443	1.1571338	0.9251432	1.344485	1.1493174
##	2732	0.004948310	0.005946908	1.2018059	0.9251432	1.344485	1.1493174
##	2733	0.005241513	0.006249749	1.1923559	0.9251432	1.344485	1.1493174
##	2734	0.005591867	0.006483190	1.1593963	0.9251432	1.344485	1.1493174
##	3859	0.006108197	0.005849654	0.9576727	0.9251432	1.344485	1.1493174
##	3860	0.006579902	0.006246326	0.9493038	0.9251432	1.344485	1.1493174
##	3861	0.007049267	0.006646709	0.9428936	0.9251432	1.344485	1.1493174
##	3862	0.007517390	0.006954662	0.9251432	0.9251432	1.344485	1.1493174
##	720	0.009247538	0.008478533	0.9168422	0.8944201	1.425870	1.0905059
##	721	0.009973317	0.009183522	0.9208092	0.8944201	1.425870	1.0905059
##	722	0.010829000	0.009685675	0.8944201	0.8944201	1.425870	1.0905059
##	723	0.011452000	0.010258184	0.8957548	0.8944201	1.425870	1.0905059
##	1810	0.002531356	0.003609386	1.4258704	0.8944201	1.425870	1.0905059
##	1811	0.002725343	0.003809119	1.3976660	0.8944201	1.425870	1.0905059
##	1812	0.002915777	0.003911280	1.3414194	0.8944201	1.425870	1.0905059
##	1813	0.003113923	0.004189796	1.3455040	0.8944201	1.425870	1.0905059
##	2938	0.003774517	0.004167299	1.1040616	0.8944201	1.425870	1.0905059
##	2939	0.004061608	0.004440813	1.0933634	0.8944201	1.425870	1.0905059
##	2940	0.004354649	0.004734430	1.0872128	0.8944201	1.425870	1.0905059
##	2941	0.004642285	0.005067417	1.0915781	0.8944201	1.425870	1.0905059
##	4066	0.004261174	0.004228100	0.9922383	0.8944201	1.425870	1.0905059
##	4067	0.004589584	0.004505527	0.9816852	0.8944201	1.425870	1.0905059
##	4068	0.004920490	0.004834170	0.9824570	0.8944201	1.425870	1.0905059
##	4069	0.005241573	0.005122128	0.9772119	0.8944201	1.425870	1.0905059
##	768	0.025719000	0.021345893	0.8299659	0.7896487	1.362280	1.1731267
##	769	0.027714000	0.021884323	0.7896487	0.7896487	1.362280	1.1731267
##	770	0.029722000	0.026539848	0.8929361	0.7896487	1.362280	1.1731267
##	771	0.031676000	0.027016340	0.8528962	0.7896487	1.362280	1.1731267
##	831	0.025719000	0.021345893	0.8299659	0.7896487	1.362280	1.1731267
##	832	0.027714000	0.021884323	0.7896487	0.7896487	1.362280	1.1731267
##	833	0.029722000	0.026539848	0.8929361	0.7896487	1.362280	1.1731267
##	834	0.031676000	0.027016340	0.8528962	0.7896487	1.362280	1.1731267
##	1948	0.009381640	0.012129266	1.2928727	0.7896487	1.362280	1.1731267
##	1949	0.010114000	0.012357827	1.2218535	0.7896487	1.362280	1.1731267
##	1950	0.010847000	0.014181931	1.3074519	0.7896487	1.362280	1.1731267
##	1951	0.011598000	0.014485385	1.2489554	0.7896487	1.362280	1.1731267
##	2017	0.009381640	0.012129266	1.2928727	0.7896487	1.362280	1.1731267
##	2018	0.010114000	0.012357827	1.2218535	0.7896487	1.362280	1.1731267

##	2019	0.010847000	0.014181931	1.3074519	0.7896487	1.362280	1.1731267
##	2020	0.011598000	0.014485385	1.2489554	0.7896487	1.362280	1.1731267
##	3076	0.008361062	0.010939718	1.3084124	0.7896487	1.362280	1.1731267
##	3077	0.009003179	0.010933249	1.2143765	0.7896487	1.362280	1.1731267
##	3078	0.009645392	0.013075036	1.3555733	0.7896487	1.362280	1.1731267
##	3079	0.010283000	0.013102028	1.2741446	0.7896487	1.362280	1.1731267
##	3145	0.008361062	0.010939718	1.3084124	0.7896487	1.362280	1.1731267
##	3146	0.009003179	0.010933249	1.2143765	0.7896487	1.362280	1.1731267
##	3147	0.009645392	0.013075036	1.3555733	0.7896487	1.362280	1.1731267
##	3148	0.010283000	0.013102028	1.2741446	0.7896487	1.362280	1.1731267
##	4204	0.008215333	0.010595191	1.2896850	0.7896487	1.362280	1.1731267
##	4205	0.008833019	0.010807454	1.2235289	0.7896487	1.362280	1.1731267
##	4206	0.009430421	0.012846874	1.3622800	0.7896487	1.362280	1.1731267
##	4207	0.010050000	0.013119732	1.3054460	0.7896487	1.362280	1.1731267
##	4273	0.008215333	0.010595191	1.2896850	0.7896487	1.362280	1.1731267
##	4274	0.008833019	0.010807454	1.2235289	0.7896487	1.362280	1.1731267
##	4275	0.009430421	0.012846874	1.3622800	0.7896487	1.362280	1.1731267
##	4276	0.010050000	0.013119732	1.3054460	0.7896487	1.362280	1.1731267
##		AccMedian	AccSD	mse	mae	mape	
##	41	0.8171159	0.1657557	1.993283e-01	0.3587584518	0.6702394	
##	42	0.8171159	0.1657557	1.993283e-01	0.3587584518	0.6702394	
##	43	0.8171159	0.1657557	1.993283e-01	0.3587584518	0.6702394	
##	1092	0.8171159	0.1657557	1.993283e-01	0.3587584518	0.6702394	
##	2220	0.8171159	0.1657557	1.993283e-01	0.3587584518	0.6702394	
##	3348	0.8171159	0.1657557	1.993283e-01	0.3587584518	0.6702394	
##	4476	0.8171159	0.1657557	1.993283e-01	0.3587584518	0.6702394	
##	5604	0.8171159	0.1657557	1.993283e-01	0.3587584518	0.6702394	
##	137	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	138	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	139	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	140	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	141	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	142	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	143	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	1188	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	1189	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	1190	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	1191	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	1192	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	1193	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	1194	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	2316	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	2317	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	2318	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	2319	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	2320	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	2321	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	2322	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	3444	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	3445	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	3446	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	3447	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	3448	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	
##	3449	1.0810242	0.1591583	1.537821e-02	0.0983413068	0.4026429	

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

##	5291	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	5301	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	5311	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	5321	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	1469	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	1470	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	1471	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	1472	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	2597	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	2598	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	2599	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	2600	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	3725	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	3726	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	3727	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	3728	1.0148011	0.2044312	9.052737e-08	0.0002474287	0.9978675
##	628	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	629	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	630	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	631	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	1603	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	1604	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	1605	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	1606	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	2731	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	2732	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	2733	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	2734	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	3859	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	3860	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	3861	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	3862	1.1668304	0.1396285	1.006926e-06	0.0009346221	0.9942271
##	720	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	721	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	722	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	723	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	1810	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	1811	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	1812	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	1813	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	2938	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	2939	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	2940	1.0397256	0.1855343	5.678565e-07	0.0006268075	0.9944604
##	2941					

```
## 833 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 834 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 1948 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 1949 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 1950 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 1951 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 2017 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 2018 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 2019 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 2020 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 3076 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 3077 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 3078 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 3079 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 3145 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 3146 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 3147 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 3148 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 4204 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 4205 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 4206 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 4207 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 4273 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 4274 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 4275 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
## 4276 1.2615500 0.1998846 1.110826e-05 0.0031785151 0.9855879
```

```
colnames(result) <-c("Gpus", "Apps", "InputSize", "ThreadBlock", "Measured", "Predicted", "accuracy",
write.csv(result, file = "./R-code/Results/LinearRegression.csv")
```

```
Tempresult <- data.frame(Gpu, App, Size, Block, TestDuration, predictions, Acc, AccMin, AccMax, AccMean)
```

```
result$Apps <- factor(result$Apps, levels = c("matMul_gpu_uncoalesced", "matMul_gpu", "matMul_gpu_shared",
"matrix_sum_normal", "matrix_sum_coalesced",
"dotProd", "vectorAdd", "subSeqMax"))
```

```
# result[result$Apps %in% "matrix_sum_normal" & result$Gpus %in% c("Quadro", "TitanX"),]
```

```
Graph <- ggplot(data=result, aes(x=Gpus, y=accuracy, group=Gpus, shape=Gpus, col=Gpus)) +
  geom_boxplot(aes(shape=Gpus)) +
  xlab("GPUs") +
  ylab(expression(paste("Accuracy ", T[k]/T[m] ))) +
  theme(axis.title = element_text(family = "Times", face="bold", size=22)) +
  theme(axis.text = element_text(family = "Times", face="bold", size=10)) +
  theme(axis.text.x=element_blank()) +
  theme(legend.title = element_text(family = "Times", face="bold", size=16)) +
  theme(legend.text = element_text(family = "Times", face="bold", size=16)) +
  # facet_grid(.~Apps, scales="fixed")
  facet_wrap(~Apps, ncol=3, scales="free_y")
# scale_colour_grey()
Graph
```

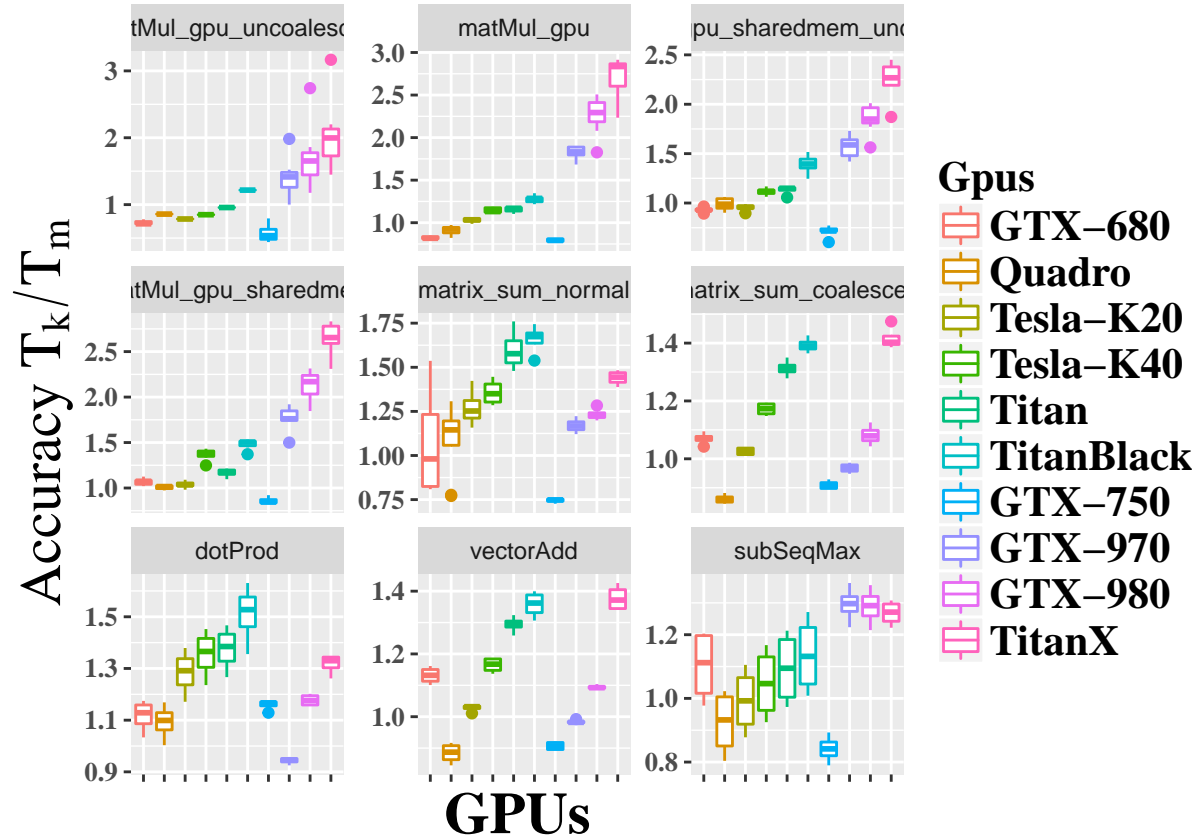
```
## Warning: The shape palette can deal with a maximum of 6 discrete values
## because more than 6 becomes difficult to discriminate; you have
```

```
## 10. Consider specifying shapes manually if you must have them.
```

```
## Warning: The shape palette can deal with a maximum of 6 discrete values
```

```
## because more than 6 becomes difficult to discriminate; you have
```

```
## 10. Consider specifying shapes manually if you must have them.
```



```
ggsave(paste("./images/ResultRandomForest.pdf",sep=""), Graph, device = pdf, height=10, width=16)
```

```
## Warning: The shape palette can deal with a maximum of 6 discrete values
```

```
## because more than 6 becomes difficult to discriminate; you have
```

```
## 10. Consider specifying shapes manually if you must have them.
```

```
## Warning: The shape palette can deal with a maximum of 6 discrete values
```

```
## because more than 6 becomes difficult to discriminate; you have
```

```
## 10. Consider specifying shapes manually if you must have them.
```

```
ggsave(paste("./images/ResultRandomForest.png",sep=""), Graph, height=10, width=16)
```

```
## Warning: The shape palette can deal with a maximum of 6 discrete values
```

```
## because more than 6 becomes difficult to discriminate; you have
```

```
## 10. Consider specifying shapes manually if you must have them.
```

```
## Warning: The shape palette can deal with a maximum of 6 discrete values
```

```
## because more than 6 becomes difficult to discriminate; you have
```

```
## 10. Consider specifying shapes manually if you must have them.
```