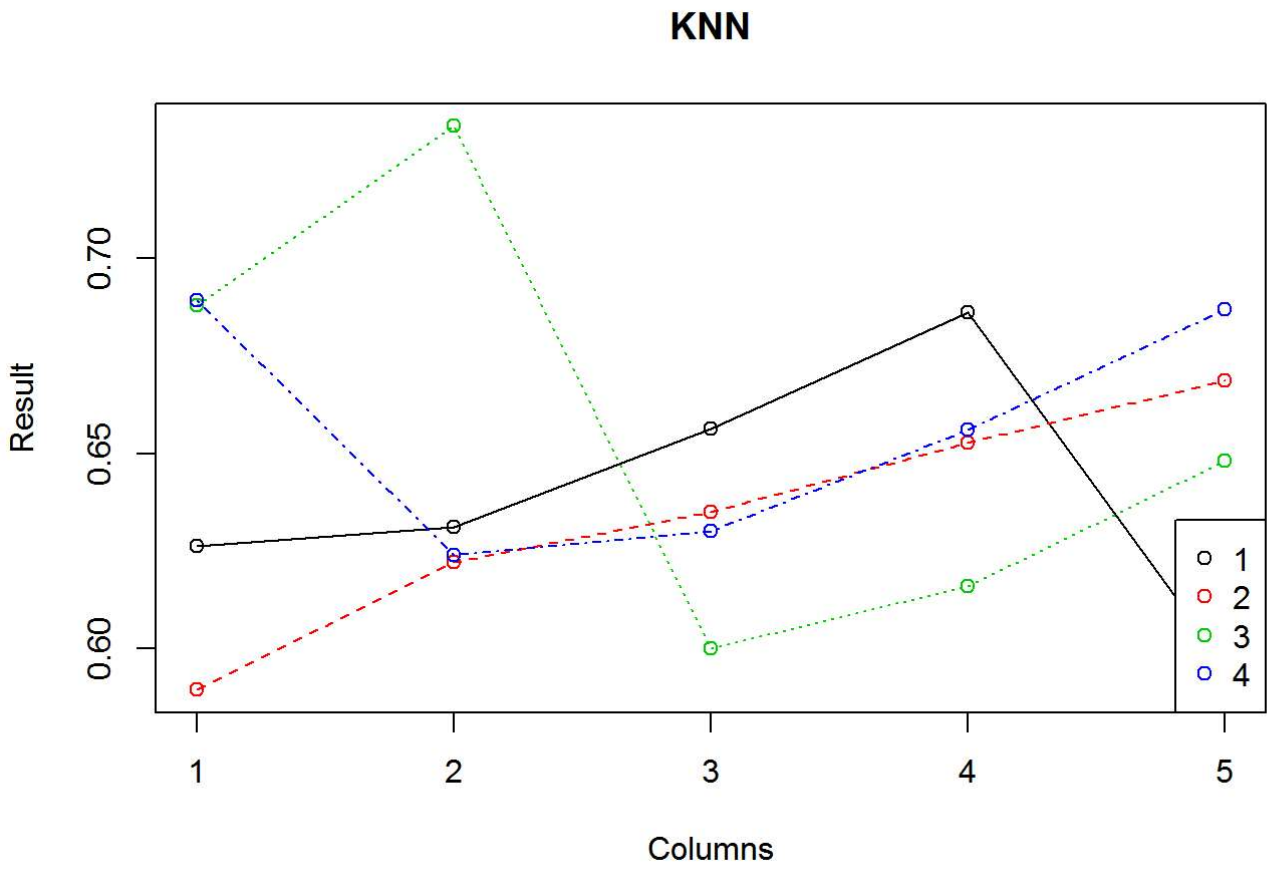
```
#---------------------- RESULTS ----------------------#

#KNN Algorithm results for different fraud percent
mat <-
matrix(c(0.6262,0.5959,0.6527,0.6000,0.6240,0.6311,0.5894,0.6687,0.6159,0.6300,0.6564,0.6222,0.
6879,0.6481,0.6560,0.6862,0.6349,0.7339,0.6893,0.6870),ncol=5,byrow = TRUE)
colnames(mat) <- c(" Accuracy"," Sensitivity"," Specificity"," Precision","  AUC")
rownames(mat) <- c(" 25% Fraud"," 50% Fraud"," 75% Fraud","100% Fraud")
res <- as.table(mat)
res
```

```
##            Accuracy  Sensitivity  Specificity  Precision    AUC
##  25% Fraud    0.6262       0.5959       0.6527     0.6000 0.6240
##  50% Fraud    0.6311       0.5894       0.6687     0.6159 0.6300
##  75% Fraud    0.6564       0.6222       0.6879     0.6481 0.6560
## 100% Fraud    0.6862       0.6349       0.7339     0.6893 0.6870
```

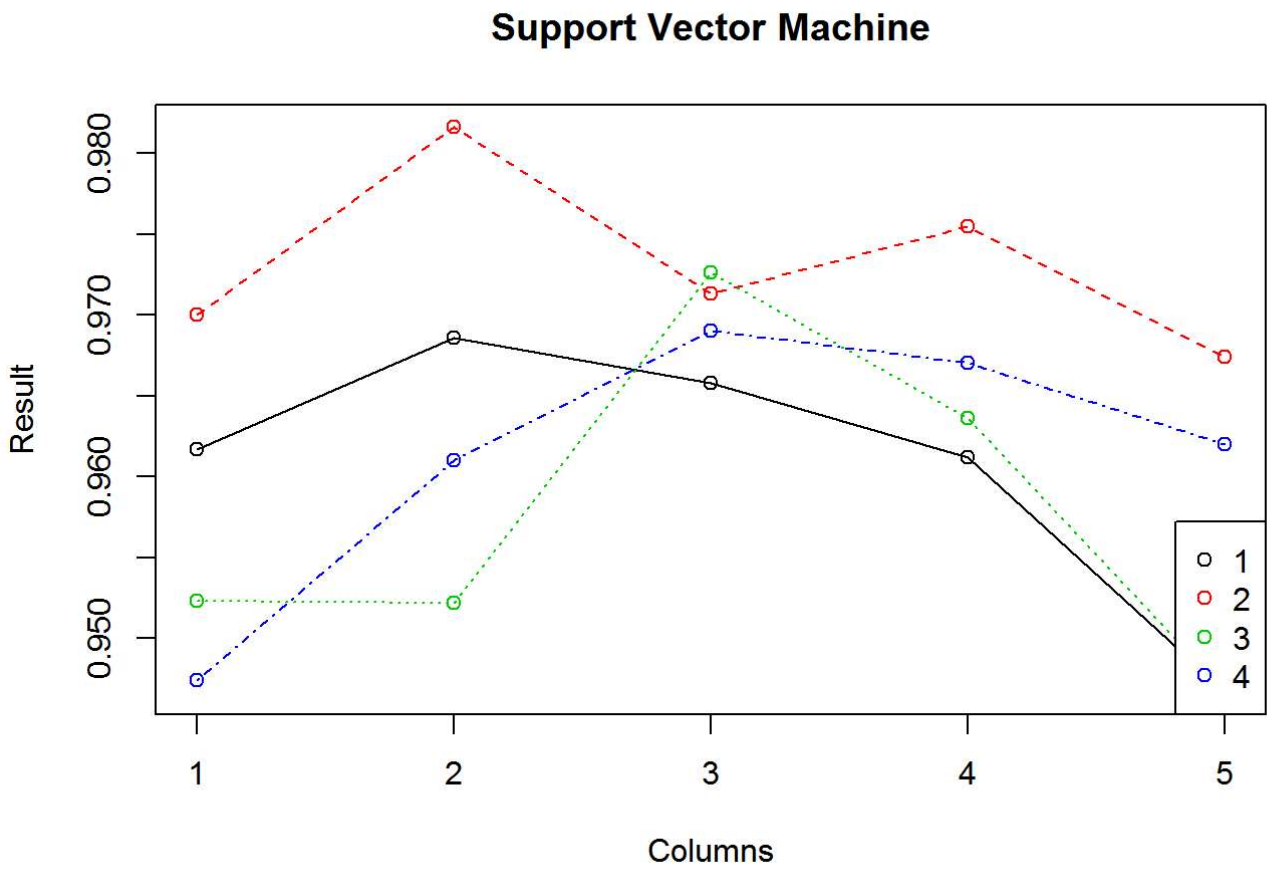
```
dat <- matrix(res,ncol=4) # make data
matplot(dat, type = c("o"),pch=1,col = 1:4,xlab = "Columns", ylab = "Result",
        main = "KNN") #plot
legend("bottomright", legend = 1:4, col=1:4, pch=1)
```



```
#SVM Algorithm results for different fraud percent
mat <-
matrix(c(0.9617,0.9467,0.9755,0.9726,0.9610,0.9686,0.9700,0.9674,0.9636,0.9690,0.9658,0.9816,0.
9523,0.9467,0.9670,0.9612,0.9713,0.9522,0.9474,0.9620),ncol=5,byrow = TRUE)
colnames(mat) <- c(" Accuracy"," Sensitivity"," Specificity"," Precision","  AUC")
rownames(mat) <- c(" 25% Fraud"," 50% Fraud"," 75% Fraud","100% Fraud")
res <- as.table(mat)
res
```

```
##             Accuracy  Sensitivity  Specificity  Precision    AUC
##  25% Fraud    0.9617       0.9467       0.9755     0.9726 0.9610
##  50% Fraud    0.9686       0.9700       0.9674     0.9636 0.9690
##  75% Fraud    0.9658       0.9816       0.9523     0.9467 0.9670
## 100% Fraud    0.9612       0.9713       0.9522     0.9474 0.9620
```

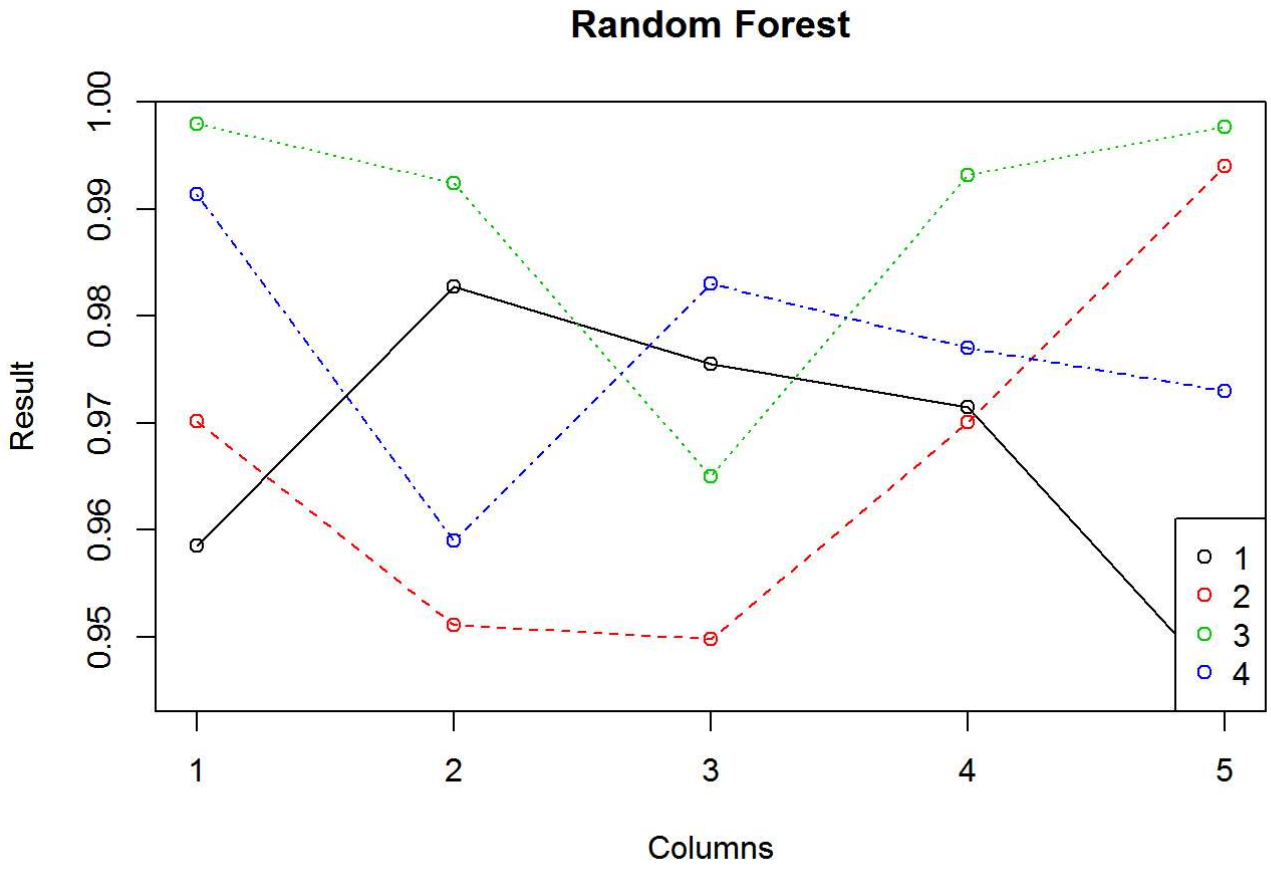
```
dat <- matrix(res,ncol=4) # make data
matplot(dat, type = c("o"),pch=1,col = 1:4,xlab = "Columns", ylab = "Result",
        main = "Support Vector Machine") #plot
legend("bottomright", legend = 1:4, col=1:4, pch=1)
```



```
#Random Forest Algorithm results for different fraud percent
mat <-
matrix(c(0.9585,0.9452,0.9701,0.9650,0.9590,0.9827,0.9702,0.9940,0.9932,0.9830,0.9755,0.9511,0.
9979,0.9977,0.9770,0.9715,0.9498,0.9924,0.9914,0.9730),ncol=5,byrow = TRUE)
colnames(mat) <- c(" Accuracy"," Sensitivity"," Specificity"," Precision","  AUC")
rownames(mat) <- c(" 25% Fraud"," 50% Fraud"," 75% Fraud","100% Fraud")
res <- as.table(mat)
res
```

```
##             Accuracy  Sensitivity  Specificity  Precision    AUC
##  25% Fraud    0.9585       0.9452       0.9701     0.9650 0.9590
##  50% Fraud    0.9827       0.9702       0.9940     0.9932 0.9830
##  75% Fraud    0.9755       0.9511       0.9979     0.9977 0.9770
## 100% Fraud    0.9715       0.9498       0.9924     0.9914 0.9730
```

```
dat <- matrix(res,ncol=4) # make data
matplot(dat, type = c("o"),pch=1,col = 1:4,xlab = "Columns", ylab = "Result",
        main = "Random Forest") #plot
legend("bottomright", legend = 1:4, col=1:4, pch=1)
```



```
#Logistic Regression Algorithm results for different fraud percent
mat <-
matrix(c(0.9521,0.9810,0.9226,0.9281,0.9520,0.9686,0.9539,0.9862,0.9881,0.9700,0.9370,0.9180,0.
9600,0.9651,0.9390,0.9509,0.9315,0.9740,0.9771,0.9530),ncol=5,byrow = TRUE)
colnames(mat) <- c(" Accuracy"," Sensitivity"," Specificity"," Precision","  AUC")
rownames(mat) <- c(" 25% Fraud"," 50% Fraud"," 75% Fraud","100% Fraud")
res <- as.table(mat)
res
```

```
##             Accuracy  Sensitivity  Specificity  Precision    AUC
##  25% Fraud    0.9521       0.9810       0.9226     0.9281 0.9520
##  50% Fraud    0.9686       0.9539       0.9862     0.9881 0.9700
##  75% Fraud    0.9370       0.9180       0.9600     0.9651 0.9390
## 100% Fraud    0.9509       0.9315       0.9740     0.9771 0.9530
```

```
dat <- matrix(res,ncol=4) # make data
matplot(dat, type = c("o"),pch=1,col = 1:4,xlab = "Columns", ylab = "Result",
        main = "Logistic Regration") #plot
legend("bottomright", legend = 1:4, col=1:4, pch=1)
```