

One question here may be how bank should decide about when to stop contacting a particular group of people? I have tried identifying those categories within the provided dataset and in general it should be about profit.

Decide_for_contacting.r

```
#####
```

```
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#Dated: 12/22/2016
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```
#Purpose: Attempt to answer: When should bank stop contacting: When profit over a time-frame is negative
```

```
#Input: Bank_Marketing.txt (Tab separated text)
```

```
#Expected Output: Categories for which bank should stop contacting to avoid further loss
```

```
#####
```

```
#####Parameters#####
```

```
profit_per_sale<-10
```

```
cost_per_call<-1
```

```
#####
```

```
bank_marketing_data <- read.table("Bank_Marketing_Downloads.txt", header=TRUE, sep="\t")
```

```
columns_to_check<-
```

```
c("job", "marital", "education", "default", "housing", "loan", "contact", "month", "poutcome")
```

```
for(column in columns_to_check){
```

```
  col_data<-bank_marketing_data[,c(column, 'y')]
```

```
  col_data_table<-table(factor(col_data[,1]))
```

```
  factors_in_column<-names(col_data_table)
```

```
  for(afactor in factors_in_column){
```

```
    bank_marketing_no<- subset(col_data, y=="no" & col_data[,1]==afactor)
```

```
    bank_marketing_yes<- subset(col_data, y=="yes" & col_data[,1]==afactor)
```

```
    profit_for_category<-nrow(bank_marketing_yes)*profit_per_sale-
```

```
((nrow(bank_marketing_yes)+nrow(bank_marketing_no))*cost_per_call))
```

```
    if(profit_for_category<0){
```

```
      cat("Bank should rethink about contacting:", column, ":", afactor, ":", profit_for_category, "\n")
```

```
    }
```

```
  }
```

```
}
```

Output:

Bank should rethink about contacting: job : blue-collar : -2652

Bank should rethink about contacting: job : entrepreneur : -257

Bank should rethink about contacting: job : housemaid : -150

Bank should rethink about contacting: job : services : -464

Bank should rethink about contacting: education : primary : -941

Bank should rethink about contacting: default : yes : -295

Bank should rethink about contacting: housing : yes : -5780

Bank should rethink about contacting: loan : yes : -2404

Bank should rethink about contacting: contact : unknown : -7720

Bank should rethink about contacting: month : jul : -625

Bank should rethink about contacting: month : may : -4516

Bank should rethink about contacting: poutcome : unknown : -3099