

```
increment <- array(0,250)
```

```
flag = 0
increment_i <- increment
#flag = 1 is a condition when the increment vector
remains the same
while (flag == 0) {
  print(find_rev(increment_i))
  increment_iplus1 <- incremental_new(increment_i)
  if (min(increment_iplus1 == increment_i) == 1)
  {flag = 1}
  increment_i <- increment_iplus1
}
increment_i
find_rev(increment_i)
/find_rev(increment)
price <- increment_i
write.csv(price,"price.csv")
```

```
#This function tries to get the next best
increment vector
incremental_new <- function(initial_increments){
  initial_rev <- find_rev(initial_increments)
  intermediate_rev <- 0
  for(i in 1:250){
    increments <- initial_increments
    if(increments[i] > -0.099) {increments[i] <-
    increments[i] - 0.01}
    rev <- find_rev(increments)
    if (rev > initial_rev) {final_increments <-
    increments
    intermediate_rev <- rev
  }
  if(increments[i] < 0.19) {increments[i] <-
  initial_increments[i] + 0.01}
  rev <- find_rev(increments)
  if (rev > max(initial_rev,intermediate_rev))
  {final_increments <- increments}
```

```

}
return(final_increments)
}
# This function will get us the overall revenue
for the given increment vector
find_rev <- function(increment){
price <- data$Avg_Price_per_unit*(1+increment)
volumes <- data$Average_units_sold*(1-
(data$Increase_sale_volume*increment*10))
multiplier <- (1-
(data$Incremental_acquisition*increment*10))
total_multiplier <- prod(multiplier)
profit_wo_multiplier <- 0.05*(sum(price*volumes) -
sum(volumes*data$Cost_per_unit))
profit_w_multiplier <-
profit_wo_multiplier*total_multiplier
net_profit <- sum(profit_w_multiplier)
return(net_profit)}

```