Part 1

View(refine\_original)

Part 2

refine\_original <-refine\_original %>% separate(Product.code...number, c("product\_code", "product\_number"), "-")

Part 3

refine\_original$product\_type <- factor(refine\_original$product\_code, levels = c("x", "p", "v", "q"), labels = c("Laptop", "Smartphone", "TV", "Tablet"))

part 4

refine\_original<- unite(refine\_original,"full\_address", c(address, city, country), sep = ",", remove=TRUE)

**part 5**

**first part**

refine\_original[paste("company\_phillips", NULL, sep = "")] <- ifelse(refine\_original$company == "phillips", 1, 0)

refine\_original[paste("company\_akzo", NULL, sep = "")] <- ifelse(refine\_original$company == "akzo", 1, 0)

refine\_original[paste("company\_van\_houten", NULL, sep = "")] <- ifelse(refine\_original$company == "van houten", 1, 0)

refine\_original[paste("company\_unilever", NULL, sep = "")] <- ifelse(refine\_original$company == "unilever", 1, 0)

**second part**

refine\_original[paste("product\_smartphone", NULL, sep = "")] <- ifelse(refine\_original$product\_type == "Smartphone", 1, 0)

refine\_original[paste("product\_TV ", NULL, sep = "")] <- ifelse(refine\_original$product\_type == "TV", 1, 0)

refine\_original[paste("product\_laptop ", NULL, sep = "")] <- ifelse(refine\_original$product\_type == "Laptop", 1, 0)

refine\_original[paste("product\_tablet ", NULL, sep = "")] <- ifelse(refine\_original$product\_type == "Tablet", 1, 0)