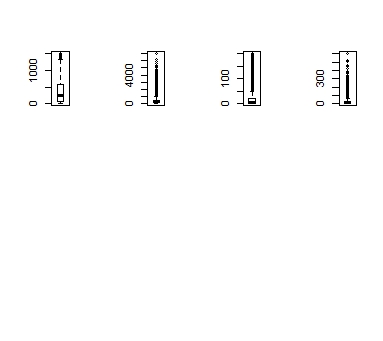
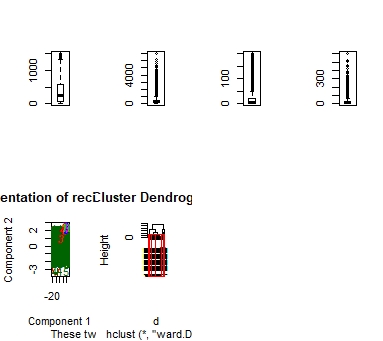
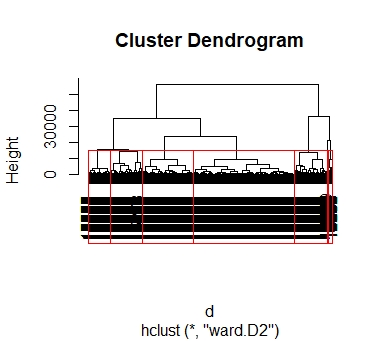
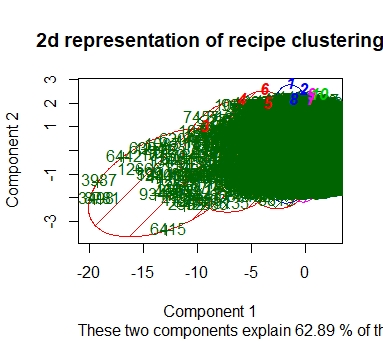
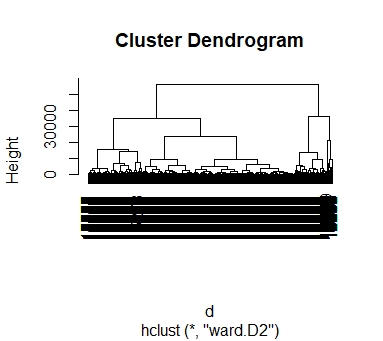
|  |
| --- |
| View(epi\_r) |
|  | sum(is.na(epi\_r)) |
|  |  |
|  | library(tidyverse) |
|  |  |
|  | epi\_r <- epi\_r %>% |
|  | filter(calories < 8000) %>% |
|  | filter(protein<200) %>% |
|  | filter(fat < 600) %>% |
|  | filter(sodium<1500) %>% # remove outliers |
|  | na.omit() # remove rows with NA values |
|  |  |
|  |  |
|  |  |
|  | #a.Apply k means clustering to identify similar recepies |
|  |  |
|  | rec<-epi\_r[, 1:6] |
|  | set.seed(12345) |
|  | reci<-kmeans(rec[,c("calories","protein","fat","sodium")], centers = 10) |
|  | reci |
|  | o<-order(reci$cluster) |
|  | head(data.frame(rec$title[o],reci$cluster[o])) |
|  |  |
|  |  |
|  | library(cluster) |
|  | clusplot(rec,reci$cluster, main = "2d representation of recipe clustering", color=TRUE, shade = TRUE, labels = 2, lines = 0) |
|  |  |
|  | d<-dist(rec[,-1], method = "euclidean") |
|  | d |
|  | h.fit<-hclust(d, method = "ward.D2") |
|  |  |
|  | plot(h.fit) |
|  |  |
|  | groups<-cutree(h.fit, k=7) |
|  | rect.hclust(h.fit, k=7, border = "red") |
|  |  |
|  | table(rec[,1], groups) |
|  |  |
|  | recipes<-agnes(rec, metric = "euclidian", method = 'ward.D2') |
|  |  |
|  |  |
|  | #b.Apply k means clustering to identify similar Attributes |
|  |  |
|  |  |
|  | y<-attributes(rec) |
|  | y |
|  | x<-rec[, c(2:6)] |
|  |  |
|  | View(x) |
|  | epi\_rrr<-scale(x) |
|  | df1<-kmeans(x,7) |
|  |  |
|  | c<-attributes(df1) |
|  | df1$centers |
|  | df1$cluster |
|  | df1$withinss |
|  | df1$tot.withinss |
|  | df1$size |
|  |  |
|  |  |
|  |  |
|  | df2<-kmeans(x,8) |
|  | df2$cluster |
|  |  |
|  | df2$withinss |
|  | df2$tot.withinss |
|  |  |
|  | df2$size |
|  |  |
|  |  |
|  | df3<-kmeans(x,9) |
|  | df3$cluster |
|  |  |
|  | df3$withinss |
|  | df3$tot.withinss |
|  |  |
|  | df3$size |
|  |  |
|  | #c.how many unique recepies that people order often |
|  |  |
|  | library(dplyr) |
|  |  |
|  | library(data.table) |
|  | t<-unique(rec,incomparables = FALSE) |
|  |  |
|  |  |
|  | #d. what are their typical profiles |
|  |  |
|  | library(dplyr) |
|  | f<-distinct(rec,.keep\_all = FALSE) |
|  |  |
|  |  |
|  | tx<-describe(rec) |
|  |  |
|  | par(mfrow=c(2,4)) |
|  | boxplot(rec$sodium) |
|  | boxplot(rec$calories) |
|  | boxplot(rec$protein) |
|  | boxplot(rec$fat) |

Graphs



Acme Hot Fudge Sundaes 0

Acorn Squash Stuffed with Wild Rice, Hazelnuts and Dried Cranberries 0

Acorn Squash VeloutÃ© with Ginger and Mustard Seeds 1

Acorn Squash with Kale and Sausage 0

Acorn Squash with Wild Mushroom Cranberry Stuffing 1

Adobo-Glazed Mini Turkey Loaves 0

Adobo-Rubbed Pork Tenderloin with Black Bean Pico de Gallo 0

Adonis 0

Affinity 0

African Adobo-Rubbed Tuna Steaks 0

African Curried Coconut Soup with Chickpeas 0

After Dinner 0

Agave-Glazed Turkey Breast with Sherry Gravy 0

Agave Margarita 0

Age of Lincoln Almond-Streusel Bundt Cake with Coffee Glaze 1

Aged Rib Eye with Onion PurÃ©e 1

Aged Sherry-Walnut Vinaigrette 0

Agnolotti with Meat and Spinach Filling 1

Agnolotti with Sweet Peas and Goat Cheese 1

Aguachile de CamarÃ³n (Shrimp Cooked in Lime and Chile) 0

Ahi Tuna Carpaccio with Basil Pesto Fettuccine and Heirloom Tomatoes 0

Aji Amarillo-Pineapple Salsa 0

Aji Sauce 0

Alambre de Camarones 0

Alaska 0

Alaska King Crab "Nachos" 0

Alaskan Black Cod with Hoisin and Ginger Sauces 0

Albondigas Soup 0

Ale-Battered Shrimp with Tartar Sauce 0

Alexander 0

Alexander Young 0

Alice's Curious French Toast Bread Pudding 0

Aligot Gratin 0

All-American Peppermint Stick Torte with Fudge Topping 0

All-American Potato Salad 0

All-Butter Pastry Dough 2

All-Butter Pie Dough 0

All-Crustacean CanapÃ©s, Garnished with Deep-Fried Capers 0

All-Day Breakfast Sandwich 0

All-Day Slow-Cooker Cassoulet 0

All-Purpose Crust 0

All-Purpose Pie Dough 0

All-Season Bean Salad 0

All-Year Blueberry Corn Muffins 0

All American Turkey 0

Allâ€“Butter Pie Dough 0

Allies 0

Allison Glock's Inspired Salsa 0

Almond-Apricot Chicken with Mint Pesto 0

Almond-Apricot Food Processor Cake 1

Almond-Barley Porridge with Fruit 0

Almond-Cherry Chocolate Bark 0

Almond-Crusted Goat Cheese Salad with Raspberry Dressing 1

Almond-Crusted Salmon with Leek and Lemon Cream 0

Almond-Crusted Shrimp Cakes with Lemon Soy Mayonnaise 0

Almond-Lemon Torte with Fresh Strawberries 0

Almond-Macaroon Torte with Chocolate Frosting and Orange Compote 0

Almond-Oat Lace Cookies 0

Almond-Oat Strawberry Shortcakes 0

Almond-Plum Buckle 0

Almond-Raisin Granola 0

Almond Aioli 0

Almond and Chocolate Dacquoise with Cranberry Sauce 0

Almond and Jam Tart 0

Almond and Mixed-Berry Shortcakes 0

Almond Apricot Biscotti 0

Almond Bread Pudding with Salted Caramel Sauce 0

Almond Brown Butter 0

groups

5

'Wichcraft's Roasted Turkey, Avocado, Bacon, Onion Relish, & AÃ¯oli on Ciabatta 0

"Adult" Pimiento Cheese 0

"Blanketed" Eggplant 0

"Bloody Mary" Tomato Toast with Celery and Horseradish 0

"Brown on Blonde" Blondies 0

"California Roll" Salad 0

"Candy Corn" Frozen Citrus Cream Pops 0

"Cannoli" Ice Cream Sandwiches 0

"Carbonnade Ã  la Flamande" Short Ribs 0

"Cocotte" of Vegetables 0

"Coffee and Doughnuts" 0

"Creamed" Cabbage and Cauliflower 0

"Drunken" Pork Chops 0

"Fish and Chips" 0

"Floating Islands" with Chocolate Mousse and CrÃ¨me Anglaise 0

"Fried" Chicken 0

"La Brea Tar Pit" Chicken Wings 0

"Like a Caesar" 0

"Opulent" Chicken 1

"Paella" Fried Rice 0

"Pot Roast" of Seitan, Aunt Gloria-Style 0

"Redeye" Braised Lamb Shanks and Beans 0

"Route 66" Chili 0

"Seder Plate" Salad 0

"Seethed" Mussels with Parsley and Vinegar 0

"Toni's Marinated Olives" 0

"Top Tier" Devil's Food Cake with Sour Cream-Fudge Frosting 0

"Virgin Mary" Aspic 0

101 "Whaler" Fish Sandwich 0

1977 Coconut Angel Food Cake 0

1985 Chicken Pie with Biscuit Crust 0

1989 Chocolate Raspberry Almond Torte 0

3-Ingredient Cacio e Pepe (Pasta With Cheese and Pepper) 0

3-Ingredient Caramel-Pear Galette 0

3-Ingredient Chicken Breasts Stuffed With Ham and Cheese 0

3-Ingredient Cinnamon-Sugar Twists 0

3-Ingredient Creamy Pumpkin Pasta 0

3-Ingredient Curried Chicken Thighs 0

3-Ingredient Gingersnap Icebox Cake 0

3-Ingredient Hazelnut Cookies 0

3-Ingredient Ice Box Cake 0

3-Ingredient Ice Cream French Toast 0

3-Ingredient Japanese Cheesecake 0

3-Ingredient Lemony Green Beans With Frizzled Leeks 1

3-Ingredient Maple-Pecan Fudge 0

3-Ingredient Mussels With White Wine and Pesto 0

3-Ingredient Orecchiette With Sausage and Fennel 0

3-Ingredient Peanut Butter Cookies 0

3-Ingredient Peppermint Rocky Road Candies 0

3-Ingredient Pesto Fried Chicken 0

3-Ingredient Pork Chops With Roasted Apples and Sage 0

3-Ingredient Red Snapper With Green Sauce and Scallions 0

3-Ingredient Sausage Dinner With Lentils and Fennel 0

3-Ingredient Seeded Crackers 0

3-Ingredient Shakshuka 0

3-Ingredient Steak With Crispy Parmesan Potatoes 0

3-Ingredient Sweet Potato Casserole With Maple Pecans 0

3-Ingredient Thanksgiving Turkey With Orange and Sage 0

3-Ingredient Tomato Soup 0

30-Minute Rice Pudding with Dried Fruit 0

4-3-2-1 Spice Rub 0

5-Grain Porridge with Bee Pollen, Apples, and Coconut 0

A Fruitcake to Love 0

A Green Peas Soup, without Meat 0

A Hollywood Ham 0

A Nice Vegetable Soup 0

A Rainbow of Grilled Peppers 0

A Simple Roast Turkey 0

Absinthe's Golden Yogurt Cake 0

Acapulco Chicken 0

Accidental Chicken 0

Achiote Chicken Skewers with Guava Sauce 0

Achiote Chicken with Tangerine Sauce 0

Acini di Pepe Pasta with Garlic and Olives 0

Acme Hot Fudge Sundaes 1

Acorn Squash Stuffed with Wild Rice, Hazelnuts and Dried Cranberries 1

Acorn Squash VeloutÃ© with Ginger and Mustard Seeds 0

Acorn Squash with Kale and Sausage 0

Acorn Squash with Wild Mushroom Cranberry Stuffing 0

Adobo-Glazed Mini Turkey Loaves 0

Adobo-Rubbed Pork Tenderloin with Black Bean Pico de Gallo 0

Adonis 0

Affinity 0

African Adobo-Rubbed Tuna Steaks 0

African Curried Coconut Soup with Chickpeas 0

After Dinner 0

Agave-Glazed Turkey Breast with Sherry Gravy 0

Agave Margarita 0

Age of Lincoln Almond-Streusel Bundt Cake with Coffee Glaze 0

Aged Rib Eye with Onion PurÃ©e 0

Aged Sherry-Walnut Vinaigrette 0

Agnolotti with Meat and Spinach Filling 0

Agnolotti with Sweet Peas and Goat Cheese 0

Aguachile de CamarÃ³n (Shrimp Cooked in Lime and Chile) 0

Ahi Tuna Carpaccio with Basil Pesto Fettuccine and Heirloom Tomatoes 0

Aji Amarillo-Pineapple Salsa 0

Aji Sauce 0

Alambre de Camarones 0

Alaska 0

Alaska King Crab "Nachos" 0

Alaskan Black Cod with Hoisin and Ginger Sauces 0

Albondigas Soup 0

Ale-Battered Shrimp with Tartar Sauce 0

Alexander 0

Alexander Young 0

Alice's Curious French Toast Bread Pudding 0

Aligot Gratin 0

All-American Peppermint Stick Torte with Fudge Topping 1

All-American Potato Salad 0

All-Butter Pastry Dough 0

All-Butter Pie Dough 0

All-Crustacean CanapÃ©s, Garnished with Deep-Fried Capers 0

All-Day Breakfast Sandwich 0

All-Day Slow-Cooker Cassoulet 0

All-Purpose Crust 0

All-Purpose Pie Dough 0

All-Season Bean Salad 0

All-Year Blueberry Corn Muffins 0

All American Turkey 0

Allâ€“Butter Pie Dough 0

Allies 0

Allison Glock's Inspired Salsa 0

Almond-Apricot Chicken with Mint Pesto 0

Almond-Apricot Food Processor Cake 0

Almond-Barley Porridge with Fruit 0

Almond-Cherry Chocolate Bark 0

Almond-Crusted Goat Cheese Salad with Raspberry Dressing 0

Almond-Crusted Salmon with Leek and Lemon Cream 1

Almond-Crusted Shrimp Cakes with Lemon Soy Mayonnaise 0

Almond-Lemon Torte with Fresh Strawberries 1

Almond-Macaroon Torte with Chocolate Frosting and Orange Compote 0

Almond-Oat Lace Cookies 0

Almond-Oat Strawberry Shortcakes 0

Almond-Plum Buckle 1

Almond-Raisin Granola 1

Almond Aioli 0

Almond and Chocolate Dacquoise with Cranberry Sauce 0

Almond and Jam Tart 0

Almond and Mixed-Berry Shortcakes 1

Almond Apricot Biscotti 0

Almond Bread Pudding with Salted Caramel Sauce 0

Almond Brown Butter 0

groups

6

'Wichcraft's Roasted Turkey, Avocado, Bacon, Onion Relish, & AÃ¯oli on Ciabatta 1

"Adult" Pimiento Cheese 0

"Blanketed" Eggplant 0

"Bloody Mary" Tomato Toast with Celery and Horseradish 0

"Brown on Blonde" Blondies 0

"California Roll" Salad 0

"Candy Corn" Frozen Citrus Cream Pops 0

"Cannoli" Ice Cream Sandwiches 0

"Carbonnade Ã  la Flamande" Short Ribs 0

"Cocotte" of Vegetables 0

"Coffee and Doughnuts" 0

"Creamed" Cabbage and Cauliflower 0

"Drunken" Pork Chops 0

"Fish and Chips" 0

"Floating Islands" with Chocolate Mousse and CrÃ¨me Anglaise 0

"Fried" Chicken 0

"La Brea Tar Pit" Chicken Wings 0

"Like a Caesar" 1

"Opulent" Chicken 0

"Paella" Fried Rice 0

"Pot Roast" of Seitan, Aunt Gloria-Style 0

"Redeye" Braised Lamb Shanks and Beans 0

"Route 66" Chili 0

"Seder Plate" Salad 0

"Seethed" Mussels with Parsley and Vinegar 0

"Toni's Marinated Olives" 0

"Top Tier" Devil's Food Cake with Sour Cream-Fudge Frosting 0

"Virgin Mary" Aspic 0

101 "Whaler" Fish Sandwich 0

1977 Coconut Angel Food Cake 0

1985 Chicken Pie with Biscuit Crust 1

1989 Chocolate Raspberry Almond Torte 0

3-Ingredient Cacio e Pepe (Pasta With Cheese and Pepper) 0

3-Ingredient Caramel-Pear Galette 0

3-Ingredient Chicken Breasts Stuffed With Ham and Cheese 0

3-Ingredient Cinnamon-Sugar Twists 0

3-Ingredient Creamy Pumpkin Pasta 0

3-Ingredient Curried Chicken Thighs 0

3-Ingredient Gingersnap Icebox Cake 0

3-Ingredient Hazelnut Cookies 0

3-Ingredient Ice Box Cake 0

3-Ingredient Ice Cream French Toast 0

3-Ingredient Japanese Cheesecake 0

3-Ingredient Lemony Green Beans With Frizzled Leeks 0

3-Ingredient Maple-Pecan Fudge 0

3-Ingredient Mussels With White Wine and Pesto 0

3-Ingredient Orecchiette With Sausage and Fennel 0

3-Ingredient Peanut Butter Cookies 0

3-Ingredient Peppermint Rocky Road Candies 0

3-Ingredient Pesto Fried Chicken 0

3-Ingredient Pork Chops With Roasted Apples and Sage 0

3-Ingredient Red Snapper With Green Sauce and Scallions 0

3-Ingredient Sausage Dinner With Lentils and Fennel 0

3-Ingredient Seeded Crackers 0

3-Ingredient Shakshuka 0

3-Ingredient Steak With Crispy Parmesan Potatoes 0

3-Ingredient Sweet Potato Casserole With Maple Pecans 0

3-Ingredient Thanksgiving Turkey With Orange and Sage 0

3-Ingredient Tomato Soup 0

30-Minute Rice Pudding with Dried Fruit 0

4-3-2-1 Spice Rub 0

5-Grain Porridge with Bee Pollen, Apples, and Coconut 0

A Fruitcake to Love 0

A Green Peas Soup, without Meat 0

A Hollywood Ham 0

A Nice Vegetable Soup 0

A Rainbow of Grilled Peppers 0

A Simple Roast Turkey 0

Absinthe's Golden Yogurt Cake 0

Acapulco Chicken 0

Accidental Chicken 0

Achiote Chicken Skewers with Guava Sauce 0

Achiote Chicken with Tangerine Sauce 0

Acini di Pepe Pasta with Garlic and Olives 0

Acme Hot Fudge Sundaes 0

Acorn Squash Stuffed with Wild Rice, Hazelnuts and Dried Cranberries 0

Acorn Squash VeloutÃ© with Ginger and Mustard Seeds 0

Acorn Squash with Kale and Sausage 0

Acorn Squash with Wild Mushroom Cranberry Stuffing 0

Adobo-Glazed Mini Turkey Loaves 0

Adobo-Rubbed Pork Tenderloin with Black Bean Pico de Gallo 0

Adonis 0

Affinity 0

African Adobo-Rubbed Tuna Steaks 0

African Curried Coconut Soup with Chickpeas 0

After Dinner 0

Agave-Glazed Turkey Breast with Sherry Gravy 0

Agave Margarita 0

Age of Lincoln Almond-Streusel Bundt Cake with Coffee Glaze 0

Aged Rib Eye with Onion PurÃ©e 0

Aged Sherry-Walnut Vinaigrette 0

Agnolotti with Meat and Spinach Filling 0

Agnolotti with Sweet Peas and Goat Cheese 0

Aguachile de CamarÃ³n (Shrimp Cooked in Lime and Chile) 0

Ahi Tuna Carpaccio with Basil Pesto Fettuccine and Heirloom Tomatoes 0

Aji Amarillo-Pineapple Salsa 0

Aji Sauce 0

Alambre de Camarones 0

Alaska 0

Alaska King Crab "Nachos" 0

Alaskan Black Cod with Hoisin and Ginger Sauces 0

Albondigas Soup 0

Ale-Battered Shrimp with Tartar Sauce 1

Alexander 0

Alexander Young 0

Alice's Curious French Toast Bread Pudding 0

Aligot Gratin 0

All-American Peppermint Stick Torte with Fudge Topping 0

All-American Potato Salad 0

All-Butter Pastry Dough 0

All-Butter Pie Dough 0

All-Crustacean CanapÃ©s, Garnished with Deep-Fried Capers 0

All-Day Breakfast Sandwich 0

All-Day Slow-Cooker Cassoulet 0

All-Purpose Crust 0

All-Purpose Pie Dough 0

All-Season Bean Salad 0

All-Year Blueberry Corn Muffins 0

All American Turkey 0

Allâ€“Butter Pie Dough 0

Allies 0

Allison Glock's Inspired Salsa 0

Almond-Apricot Chicken with Mint Pesto 0

Almond-Apricot Food Processor Cake 0

Almond-Barley Porridge with Fruit 0

Almond-Cherry Chocolate Bark 0

Almond-Crusted Goat Cheese Salad with Raspberry Dressing 0

Almond-Crusted Salmon with Leek and Lemon Cream 0

Almond-Crusted Shrimp Cakes with Lemon Soy Mayonnaise 0

Almond-Lemon Torte with Fresh Strawberries 0

Almond-Macaroon Torte with Chocolate Frosting and Orange Compote 0

Almond-Oat Lace Cookies 0

Almond-Oat Strawberry Shortcakes 0

Almond-Plum Buckle 0

Almond-Raisin Granola 0

Almond Aioli 0

Almond and Chocolate Dacquoise with Cranberry Sauce 0

Almond and Jam Tart 0

Almond and Mixed-Berry Shortcakes 0

Almond Apricot Biscotti 0

Almond Bread Pudding with Salted Caramel Sauce 0

Almond Brown Butter 0

groups

7

'Wichcraft's Roasted Turkey, Avocado, Bacon, Onion Relish, & AÃ¯oli on Ciabatta 0

"Adult" Pimiento Cheese 0

"Blanketed" Eggplant 0

"Bloody Mary" Tomato Toast with Celery and Horseradish 0

"Brown on Blonde" Blondies 0

"California Roll" Salad 0

"Candy Corn" Frozen Citrus Cream Pops 0

"Cannoli" Ice Cream Sandwiches 0

"Carbonnade Ã  la Flamande" Short Ribs 0

"Cocotte" of Vegetables 0

"Coffee and Doughnuts" 0

"Creamed" Cabbage and Cauliflower 0

"Drunken" Pork Chops 0

"Fish and Chips" 0

"Floating Islands" with Chocolate Mousse and CrÃ¨me Anglaise 0

"Fried" Chicken 0

"La Brea Tar Pit" Chicken Wings 0

"Like a Caesar" 0

"Opulent" Chicken 0

"Paella" Fried Rice 0

"Pot Roast" of Seitan, Aunt Gloria-Style 0

"Redeye" Braised Lamb Shanks and Beans 0

"Route 66" Chili 0

"Seder Plate" Salad 0

"Seethed" Mussels with Parsley and Vinegar 0

"Toni's Marinated Olives" 0

"Top Tier" Devil's Food Cake with Sour Cream-Fudge Frosting 0

"Virgin Mary" Aspic 0

101 "Whaler" Fish Sandwich 0

1977 Coconut Angel Food Cake 0

1985 Chicken Pie with Biscuit Crust 0

1989 Chocolate Raspberry Almond Torte 0

3-Ingredient Cacio e Pepe (Pasta With Cheese and Pepper) 0

3-Ingredient Caramel-Pear Galette 0

3-Ingredient Chicken Breasts Stuffed With Ham and Cheese 0

3-Ingredient Cinnamon-Sugar Twists 0

3-Ingredient Creamy Pumpkin Pasta 0

3-Ingredient Curried Chicken Thighs 0

3-Ingredient Gingersnap Icebox Cake 0

3-Ingredient Hazelnut Cookies 0

3-Ingredient Ice Box Cake 0

3-Ingredient Ice Cream French Toast 0

3-Ingredient Japanese Cheesecake 0

3-Ingredient Lemony Green Beans With Frizzled Leeks 0

3-Ingredient Maple-Pecan Fudge 0

3-Ingredient Mussels With White Wine and Pesto 0

3-Ingredient Orecchiette With Sausage and Fennel 0

3-Ingredient Peanut Butter Cookies 0

3-Ingredient Peppermint Rocky Road Candies 0

3-Ingredient Pesto Fried Chicken 0

3-Ingredient Pork Chops With Roasted Apples and Sage 0

3-Ingredient Red Snapper With Green Sauce and Scallions 0

3-Ingredient Sausage Dinner With Lentils and Fennel 0

3-Ingredient Seeded Crackers 0

3-Ingredient Shakshuka 0

3-Ingredient Steak With Crispy Parmesan Potatoes 0

3-Ingredient Sweet Potato Casserole With Maple Pecans 0

3-Ingredient Thanksgiving Turkey With Orange and Sage 0

3-Ingredient Tomato Soup 0

30-Minute Rice Pudding with Dried Fruit 0

4-3-2-1 Spice Rub 0

5-Grain Porridge with Bee Pollen, Apples, and Coconut 0

A Fruitcake to Love 0

A Green Peas Soup, without Meat 0

A Hollywood Ham 0

A Nice Vegetable Soup 0

A Rainbow of Grilled Peppers 0

A Simple Roast Turkey 0

Absinthe's Golden Yogurt Cake 0

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Achiote Chicken with Tangerine Sauce 0

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Acme Hot Fudge Sundaes 0

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Alexander 0

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Alice's Curious French Toast Bread Pudding 0

Aligot Gratin 0

All-American Peppermint Stick Torte with Fudge Topping 0

All-American Potato Salad 0

All-Butter Pastry Dough 0

All-Butter Pie Dough 0

All-Crustacean CanapÃ©s, Garnished with Deep-Fried Capers 0

All-Day Breakfast Sandwich 0

All-Day Slow-Cooker Cassoulet 0

All-Purpose Crust 0

All-Purpose Pie Dough 0

All-Season Bean Salad 0

All-Year Blueberry Corn Muffins 0

All American Turkey 0

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Almond-Crusted Goat Cheese Salad with Raspberry Dressing 0

Almond-Crusted Salmon with Leek and Lemon Cream 0

Almond-Crusted Shrimp Cakes with Lemon Soy Mayonnaise 0

Almond-Lemon Torte with Fresh Strawberries 0

Almond-Macaroon Torte with Chocolate Frosting and Orange Compote 0

Almond-Oat Lace Cookies 0

Almond-Oat Strawberry Shortcakes 0

Almond-Plum Buckle 0

Almond-Raisin Granola 0

Almond Aioli 0

Almond and Chocolate Dacquoise with Cranberry Sauce 0

Almond and Jam Tart 0

Almond and Mixed-Berry Shortcakes 0

Almond Apricot Biscotti 0

Almond Bread Pudding with Salted Caramel Sauce 0

Almond Brown Butter 0

[ reached getOption("max.print") -- omitted 17594 rows ]

> recipes<-agnes(rec, metric = "euclidian", method = 'ward.D2')

Error in agnes(rec, metric = "euclidian", method = "ward.D2") :

invalid clustering method

> y<-attributes(rec)

> y

$names

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$class

[1] "data.frame"

$row.names

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[ reached getOption("max.print") -- omitted 13474 entries ]

> x<-rec[, c(2:6)]

> View(x)

> epi\_rrr<-scale(x)

> df1<-kmeans(x,7)

> c<-attributes(df1)

> df1$centers

rating calories protein fat sodium

1 3.9 3968 74.8 298.8 889

2 4.1 1605 76.5 110.3 859

3 4.0 587 32.1 33.7 1117

4 3.5 178 3.7 8.2 89

5 4.0 867 36.4 53.5 429

6 3.9 457 14.5 24.8 200

7 3.8 314 14.4 17.5 592

> df1$cluster

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[ reached getOption("max.print") -- omitted 13474 entries ]

> df1$withinss

[1] 5.7e+07 1.0e+08 1.4e+08 9.0e+07 9.5e+07 7.1e+07 1.1e+08

> df1$tot.withinss

[1] 6.7e+08

> df1$size

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> df2<-kmeans(x,8)

> df2$cluster

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[ reached getOption("max.print") -- omitted 13474 entries ]

> df2$withinss

[1] 5.6e+07 9.3e+07 5.6e+07 9.6e+07 8.9e+07 7.1e+07 7.5e+07 5.2e+07

> df2$tot.withinss

[1] 5.9e+08

> df2$size

[1] 2455 345 2225 1122 1141 5439 1698 49

> df3<-kmeans(x,9)

> df3$cluster

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[ reached getOption("max.print") -- omitted 13474 entries ]

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> df3$tot.withinss

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> df3$size

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> library(data.table)

> t<-unique(rec,incomparables = FALSE)

> library(dplyr)

> f<-distinct(rec,.keep\_all = FALSE)

> dim\_desc(rec)

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> tx<-desc(rec)

> par(mfrow=c(2,4))

> boxplot(rec$sodium)

> boxplot(rec$calories)

> boxplot(rec$protein)

> boxplot(rec$fat)