#!/usr/bin/env Rscript

suppressPackageStartupMessages(library("optparse"))

suppressPackageStartupMessages(library("stats"))

usage = "The prog is used to display the cumulatived data of FPKM.

example: Rscript /public/pipeline/ablifegraphic/latest/ablife-R/Scatter/latest/Scatter\_pas.r

-f B246d\_pac\_50.txt

-t B246d\_pac\_50

-n B246d\_pac\_50

"

option\_list <- list(

make\_option(c("-f", "--file"),action = "store",type = "character",

help = "The Input file"),

make\_option(c("-t","--title"),action = "store",type = "character",

help = "The title of the plot"),

make\_option(c("-n", "--filename"),action = "store",type = "character",

help = "The name of outimage"),

make\_option(c("-o", "--outdir"),action = "store",type = "character",default = "./",

help = "The outdir")

)

opt <- parse\_args(OptionParser(option\_list = option\_list)) #####

setwd(opt$outdir) #### Set the outpath

###################################################################################

#### （Load Package）

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library(ggplot2)

library(reshape2)

library(plotrix)

library(methods)

library(gtable)

library(grid)

library(RColorBrewer)

###################################################################################

#### （Load Color）

###################################################################################

colour <- c('#85A2EF','#D285EF','#A2EF85','#4682B4','#A0522D','#87CEEB','#6B8E23','#6A5ACD','#E59B95','#EFD285','#B4B643','#2E9AFE','#A1DDBB','#FF8C00') ###

# colour1 <- brewer.pal(8,"Dark2")

###################################################################################

#######data format sample########

# xcoordinate A T G C

# -50 27.1146946776639 32.0856603913156 20.753042127455 20.0466028035655

# -49 27.9209971520509 32.3334689499575 19.9023560306247 19.8431778673669

# -48 27.6103117949477 32.3630580315863 20.2204386581351 19.8061915153308

# -47 27.6805858638163 32.3704553019936 19.9319451122536 20.0170137219366

# -46 27.3772977771202 32.2484003402744 20.4238635943337 19.9504382882716

# -45 28.0874357362133 32.4222361948441 19.8764655841994 19.6138624847431

#################################

######Instruction for data#######

#first column is the X axis

#from second to end is the data for ploting

#first row is the head to declare the data

#

#################################

###################################################################################

##（Deal with Data）

title <- gsub('\_',' ',opt$title)

data <- read.table(file= opt$file,header = T)##### must with header

colname <- colnames(data)

dim\_data <- dim(data)

newdata <- melt(data,id.vars=colname[1],measure.vars=c(colname[2:dim\_data[2]]),variable.name="Base")

##################################################################################

###Plot Theme for ABLife

###theme(),Tha last term without comma

##################################################################################

ablife\_theme\_line <- function(base\_size = 12){

library(grid) ####for using unit function

theme(

plot.title = element\_text(size=12,colour="#000000",hjust = 0.5),

axis.title.x = element\_text(size=12,colour = "#000000"),

axis.title.y = element\_text(size=12,colour = "#000000"),

axis.text.x = element\_text(size = 12,colour = "#000000"),

axis.text.y = element\_text(size = 12 ,colour = "#000000"),

legend.title = element\_text(size = 12),

legend.text = element\_text(size = 12),

legend.key.size = unit(1,"cm"),

panel.background = element\_rect(fill = "white",colour = NA),

panel.border = element\_rect(size = 1,colour = "black",fill =NA)

# panel.border = element\_rect(size = 1,colour = "#8B8B8B",fill =NA),

# panel.grid.major = element\_line(size=0.5,colour = "#BFBFBF"),

# panel.grid.minor = element\_line(size=0.1,colour = "#7F7F7F")

)

}

##################################################################################

###Plot by ggplot2

ggplot(newdata)+

geom\_point(aes(x = newdata[,1],y=newdata[,3],stat = "identity",group = 1,fill= Base,colour=Base),shape = 2,size =3,position = "identity")+ labs(title = title,y="Frequency of each base(%)",x="Location")+

###################################################################################

###Save Plot File

ggsave(file = paste(opt$filename,"\_Scatter.pdf",sep=''), width = 180,height = 120,dpi = 450,units = "mm")

ggsave(file = paste(opt$filename,"\_Scatter.png",sep=''), width = 180,height = 120,dpi = 450,units = "mm")