S1 The code of interactive nomograms

Part 1, Load packet
if(!require(dplyr)) install.packages("dplyr")
library(dplyr)
if(!require(stringr)) install.packages("stringr")
library(stringr)
if(!require(tidyverse)) install.packages("tidyverse")
library(tidyverse)
if(!require(foreign)) install.packages("foreign")
library(foreign)
if(!require(regplot)) install.packages("regplot")
library(regplot)

Part 2, Set file (Path is where the data is stored on the computer)
setwd("D:\R work")

Part 3, Read data set
ICU <- read.csv("D:\R work\ICU.csv")

Part 4, Extract training set and validation set
dev <- ICU[ICU$group == "train",]
vad <- ICU[ICU$group == "validation",]

Part 5, Reset reference standard
levels(dev$culture)
levels(dev$cancer)
levels(dev$diabetes)
levels(dev$hypertension)
dev$develop <- relevel(dev$develop, "undeveloped")
levels(dev$develop) <- list("undeveloped" = 0, "developed" = 1)
dev$LOS <- relevel(dev$LOS, "≤6days")
levels(dev$LOS) <- list("≤6days" = 0, "7~14days" = 1, "15~36days" = 2, "36~64days" = 3, ">64days" = 4)
dev$fever <- relevel(dev$fever, "≤1days")
levels(dev$fever) <- list("≤1days" = 0, "2~3days" = 1, "4~5days" = 2, ">5days" = 3)
dev$santsD <- relevel(dev$santsD, "≤3days")
levels(dev$santsD) <- list("≤3days" = 0, "4~6days" = 1, "7~12days" = 2, "13~17days" = 3, "18~37days" = 4, ">37days" = 5)

Part 6, construct and drawing interactive nomograms for clinical applications
modelc <- glm(HCAI ~ culture + develop + diabetes + cancer + LOS + fever, data = dev, family = binomial(link = "logit"))
summary(modelc)
round(cbind(coef=modelc), confint.default(modelc),2)
round(exp(cbind(OR = coef(modelc), confint(modelc))),2)

dev$predmodelc <- predict(newdata = dev, modelc, "response")
regplot(modelc, observation = dev[3,])