Exercises 6

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windows.options(width = 10, height = 10)  
pdf("olympicringsoutput.pdf")  
  
plot(0,type = "n",xlim = c(-2.5\*1.5,3\*1.5), ylim = c(-2.5\*1.5,2.5\*1.5),   
 asp = 1, axes = FALSE, ann = FALSE)  
  
  
circle\_points <- function(n=1000){  
 theta <- 2\*pi\*seq(0,1,length.out = n+1)  
 x1 <- cos(theta)  
 x2 <- sin(theta)  
 return(list(x1=x1, x2=x2))  
}  
  
circ <- circle\_points()  
x1<- circ$x1  
x2<-circ$x2  
polygon(x1-2.35,x2+1.15, border = "#0081C8", lwd = 11.8)  
polygon(x1-1.175,x2, border = "#FCB131", lwd = 11.8)  
polygon(x1,x2+1.15, border = "#000000", lwd = 11.8)  
polygon(x1+1.175,x2, border = "#00A651", lwd = 11.8)  
polygon(x1+2.35,x2+1.15, border = "#EE334E", lwd = 11.8)  
  
  
circle\_points\_top <- function(n=1000){  
 theta <- 2\*pi\*seq(0,1,length.out = n+1)[125:375]  
 x1 <- cos(theta)  
 x2 <- sin(theta)  
 return(list(x1=x1, x2=x2))  
}  
  
circle\_points\_left <- function(n=1000){  
 theta <- 2\*pi\*seq(0,1,length.out = n+1)[c(375:625)]  
 x1 <- cos(theta)  
 x2 <- sin(theta)  
 return(list(x1=x1, x2=x2))  
}  
  
circle\_points\_right <- function(n=1000){  
 theta <- 2\*pi\*seq(0,1,length.out = n+1)[c(875:1000,1:125)]  
 x1 <- cos(theta)  
 x2 <- sin(theta)  
 return(list(x1=x1, x2=x2))  
}  
  
  
circle\_points\_bottom <- function(n=1000){  
 theta <- 2\*pi\*seq(0,1,length.out = n+1)[c(625:875)]  
 x1 <- cos(theta)  
 x2 <- sin(theta)  
 return(list(x1=x1, x2=x2))  
}  
  
  
circ <- circle\_points\_top()  
x1<- circ$x1  
x2<-circ$x2  
  
lines(x1-1.175,x2, col = "#FCB131", lwd = 11.8)  
  
circ <- circle\_points\_right()  
x1<- circ$x1  
x2<-circ$x2  
  
lines(x1-2.35,x2+1.15, col = "#0081C8", lwd = 11.8)  
  
circ <- circle\_points\_bottom()  
x1<- circ$x1  
x2<-circ$x2  
  
lines(x1,x2+1.15, col = "#000000", lwd = 11.8)  
  
circ <- circle\_points\_left()  
x1<- circ$x1  
x2<-circ$x2  
  
lines(x1+1.175,x2, col = "#00A651", lwd = 11.8)  
  
circ <- circle\_points\_top()  
x1<- circ$x1  
x2<-circ$x2  
  
lines(x1+1.175,x2, col = "#00A651", lwd = 11.8)  
  
circ <- circle\_points\_right()  
x1<- circ$x1  
x2<-circ$x2  
  
lines(x1,x2+1.15, col = "#000000", lwd = 11.8)