```r
library('rpart')
data('kyphosis', package = 'rpart')
# pdf("kyphAll.rp.pdf", width = 11, height = 6.5)

par(mfcol = c(1, 2))
if (! exists("rp2"))
{
  rp2 <- rpart(Kyphosis ~ Age + Start, data = kyphosis)
}

kyph1.rp <- rpart(Kyphosis ~ Age + Number + Start, data = kyphosis)
print(kyph1.rp)

tp <- plot(kyph1.rp, margin = 0.1)
cir <- 1/8
text(kyph1.rp, use.n = TRUE, xpd = TRUE)
text(x = 3.4375, y = 1.02, "Root Node   1")
symbols(x = 4.05, y = 1.0195, circles = cir, add = T, inches = F)

text("2", x = 1.5, y = 0.94)
symbols(x = 1.5, y = 0.94, circles = cir, add = T, inches = F)
text("3", x = 5.3, y = 0.94, adj = 0)
symbols(x = 5.35, y = 0.94, circles = cir, add = T, inches = F)
text("4", x = 0.84, y = 0.83)
symbols(x = 0.84, y = 0.83, circles = cir, add = T, inches = F)
text("5", x = 3.232, y = 0.83)
symbols(x = 3.235, y = 0.83, circles = cir, add = T, inches = F)
text("10", x = 1.79, y = 0.81, cex = .8)
symbols(x = 1.8, y = 0.81, circles = cir, add = T, inches = F)
text("11", x = 4., y = 0.81, cex = .8)
symbols(x = 4., y = 0.81, circles = cir, add = T, inches = F)
text("22", x = 2.75, y = 0.77, cex = .8)
symbols(x = 2.755, y = 0.7695, circles = cir, add = T, inches = F)
text("23", x = 4.25, y = 0.77, cex = .8)
symbols(x = 4.255, y = 0.7695, circles = cir, add = T, inches = F)

text("[1]", x = 1, y = 0.77)
text("[2]", x = 2, y = 0.75)
text("[3]", x = 3, y = 0.695)
text("[4]", x = 4, y = 0.695)
text("[5]", x = 5, y = 0.785)
# grid <- TRUE
grid <- FALSE
if (grid)
{
  abline(h = seq(0.70, 1.00, by = 0.05), col = "grey")
  text(seq(0.70, 1, by = 0.05), adj = 0, x = .55, y = seq(0.70, 1.00, by = 0.05)+0.01)
  abline(v = seq(0.5, 5, by = 0.5), col = "grey")
  text(seq(0.5, 5, by = 0.5), adj = 0, x = seq(0.5,5,0.5)+.1, y = .695)
}
```

```r
plot(kyphosis$Age, kyphosis$Start, type = "n", xlab = "", ylab ="", axes = F)
axis(1, at = seq(0, 200, by = 25), labels = rep("", 9))
mtext(seq(0, 200, by = 25), at = seq(0, 200, by = 25), side = 1, line = 1)
mtext("Age in Months", side = 1, line = 3, cex = 1.5)
axis(2, at = seq(0, 15, 5), labels = rep("", 4))
mtext(seq(0, 15, by = 5), at = seq(0, 15, by = 5), side = 2, line = 1, las = 1)
mtext("Beginning of Vertebrae", side = 2, line = 2.7, cex = 1.5)
ti <- which(kyphosis$Kyphosis == "present")
points(x = kyphosis$Age[ti], y = kyphosis$Start[ti], pch = 19) # present
points(x = kyphosis$Age[-ti], y = kyphosis$Start[-ti], pch = 21) # absent
abline(h = c(8.5, 14.5))
segments(55, 8.5, 55, 14.5)
segments(111, 8.5, 111, 14.5)

cir <- 6
symbols(x = 12, y = 8.5, circles = cir, add = T, bg = "white", inches = F)
text("1", x = 12, y = 8.5)
symbols(x = 12, y = 14.5, circles = cir, add = T, bg = "white", inches = F)
text("2", x = 12, y = 14.5)
symbols(x = 55, y = 11, circles = cir, add = T, bg = "white", inches = F)
text("5", x = 55, y = 11)
symbols(x = 111, y = 11, circles = cir, add = T, bg = "white", inches = F)
text("11", x = 111, y = 11, cex = .8)

text("Present [5]", x = 175, y = 5, cex = 1.2)
text("Absent [2]", x = 53, y = 12, cex = 1.2, adj = 1)
text("Present [4]", x = 110, y = 9, cex = 1.2, adj = 1)
text("Absent [3]", x = 175, y = 9, cex = 1.2)
text("Absent [1]", x = 125, y = 17, cex = 1.2)
box()

rm(tp, cir, rp2, grid)
```