Oblig 1) Bror Johannes Tidemand Rud STK2100

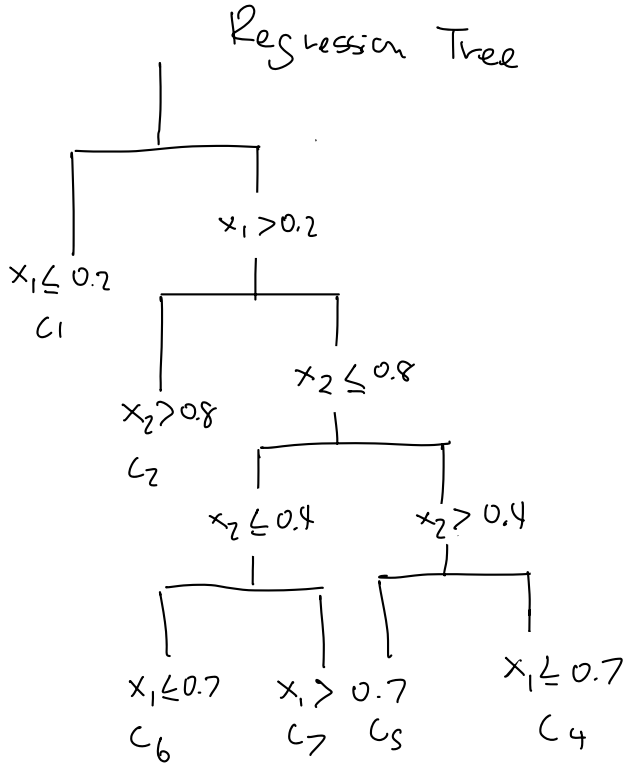
a) Only figure A is a possible regression tree.

Figure B has an impossible split in the C_5/C_6 where C_5 does not follow a split in a single predictor

Figure D The same goes for Figure D in C_4.

Figure C Here we have a slightly different problem in C_5, C_6 and C_7. Where there is a split in $x_1 = x_2 + C$ where C is a constant. This kind of split is also impossible in a regression tree.

b) Since Figure B, C and D are not possible i will only write the divicion of A



c) i) $f(x_1 = 0.6 \quad x_2 = 0.6) = C_4$

ii) $f(x_1 = 0.1, \quad x_2 = 0.6) = C_1$

iii) $f(x_1 = 0.6, \quad x_2 = 0.1) = C_6$