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Quiz #1

Draw the control gates associated the program counter PC in the computer.

Answer:

$D_4 T_4$: $PC \leftarrow AR$ $LD(Pc)$

$D_5 T_5$: $PC \leftarrow AR$ $LD(Pc)$

$R T_1$: $PC \leftarrow 0$ ~~Interrupt~~ ^{clear} Pc

$R' T_1$: $Pc + Pc + 1$ ~~IncInterrupt~~ (Pc)

$R T_2$: $Pc + Pc + 1$ $Inc(Pc)$

$D_6 T_6 ZDR$: $Pc + Pc + 1$ $Inc(Pc)$

\rightarrow If $DR = 0$

~~$R T_1$~~ : ~~$Pc + Pc + 1$~~

~~$R T_2$~~ :

~~$D_6 T_6 ZDR$~~ :

$PB_9(FG1) + PB_8(FG0)$: $Pc \leftarrow Pc + 1$ $Inc(Pc)$

$PB_8(FG0)$: $Pc \leftarrow Pc + 1$ $Inc(Pc)$

$AB_4(AC_{15})'$: $Pc \leftarrow Pc + 1$ $Inc(Pc)$

$AB_3(AC_{15})$: $Pc \leftarrow Pc + 1$ $Inc(Pc)$

$AB_2(BA) + AB_1(E)$: $Pc \leftarrow Pc + 1$ $Inc(Pc)$