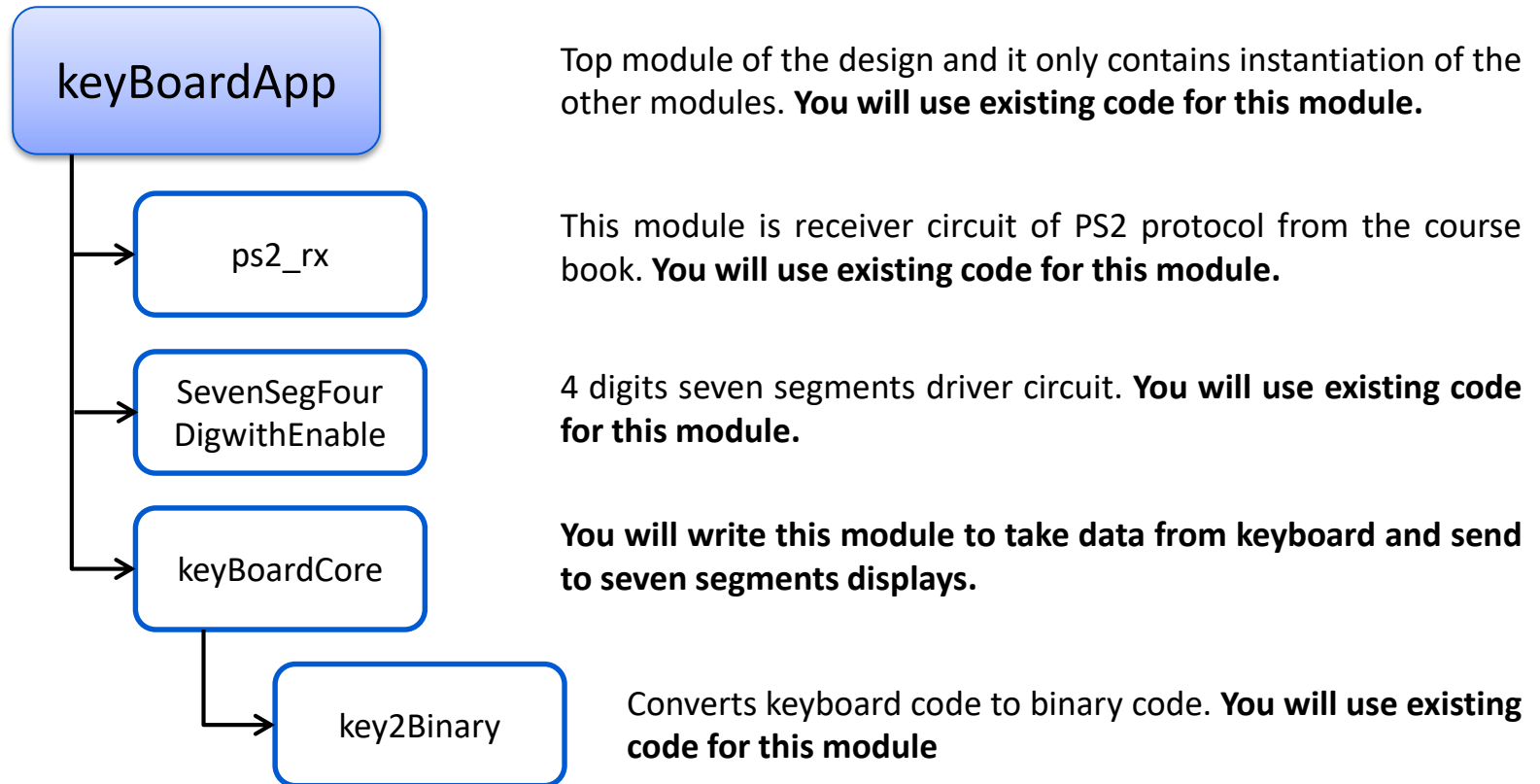# KeyBoard Application

ÖZYEĞİN
ÜNİVERSİTESİ

keyBoardApp

Design Description

- It is an example of PS2 keyboard application.

- It takes numbers from keyboard and displays them on 4 digits seven segment display
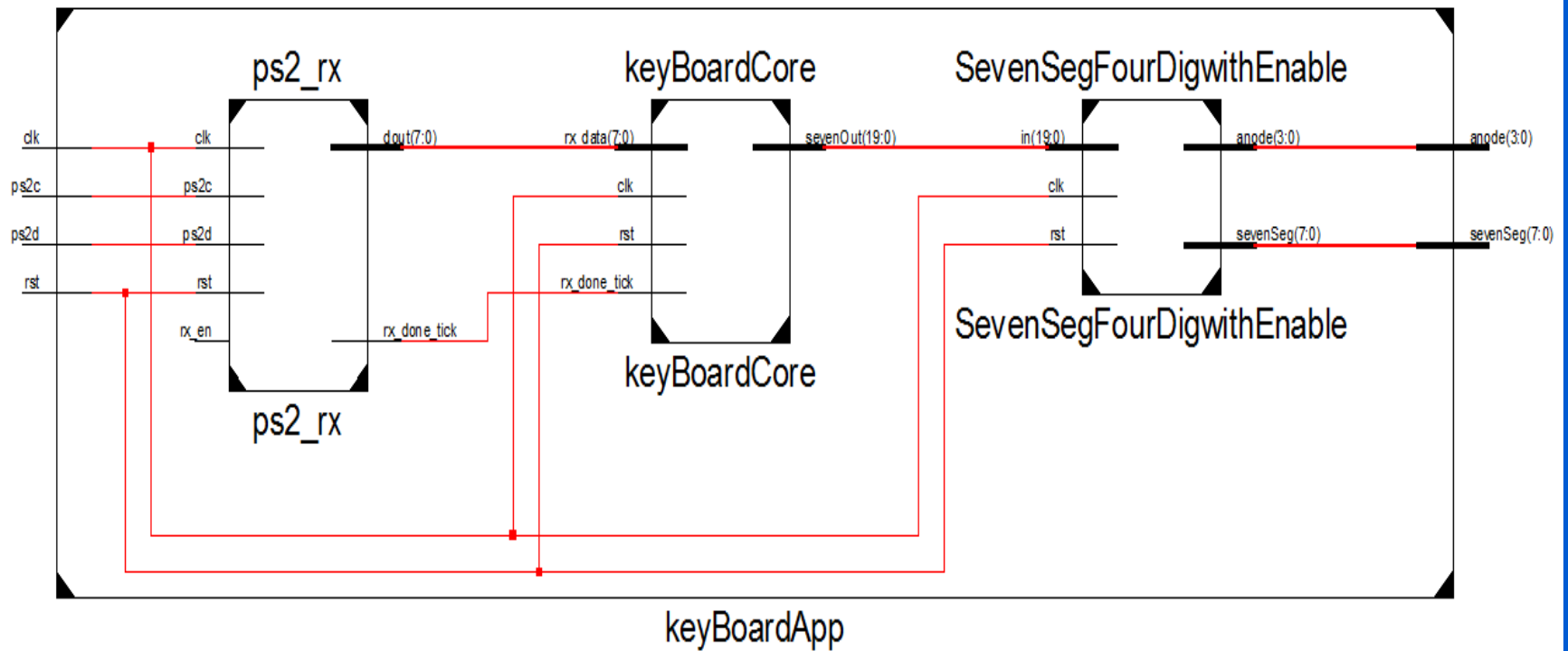
keyBoardApp
Hierarchy of keyBoardApp

keyBoardApp

Top module of the design and it only contains instantiation of the other modules. **You will use existing code for this module.**

ps2_rx

This module is receiver circuit of PS2 protocol from the course book. **You will use existing code for this module.**

SevenSegFour DigwithEnable

4 digits seven segments driver circuit. **You will use existing code for this module.**

keyBoardCore

You will write this module to take data from keyboard and send to seven segments displays.

key2Binary

Converts keyboard code to binary code. **You will use existing code for this module**
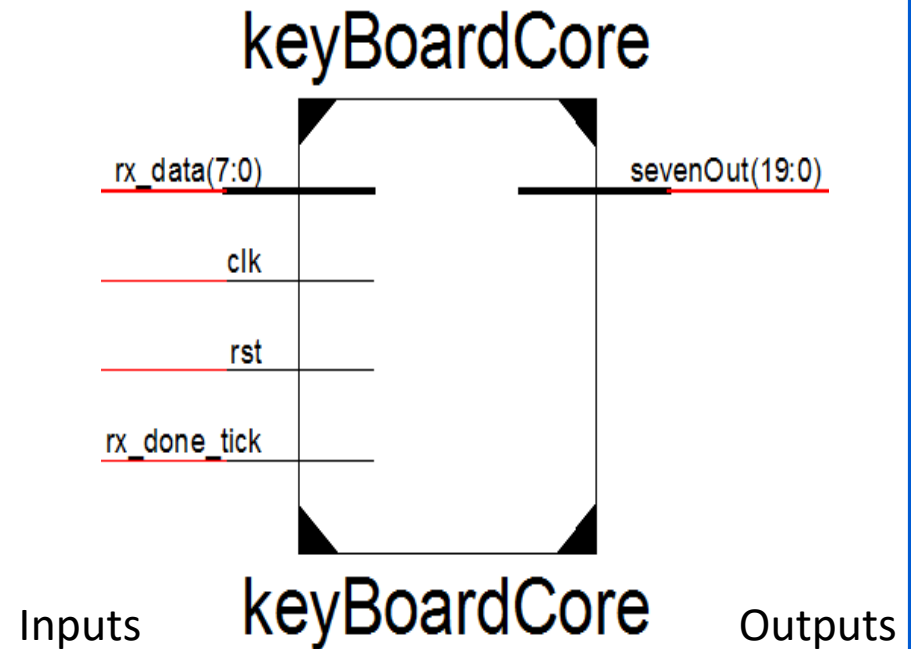
keyBoardApp

Block Diagram

keyBoardApp

Inputs and Outputs of keyBoardCore

- *Rx_done_tick* is an enable signal that says us data is ready on *rx_data* port.

- *sevenOut* goes to sevenSegments driver unit. Each 5 bits out of 20 of it is responsible to a single digit seven segments. So there is 4 digits.

keyBoardCore

rx_data(7:0)

clk

rst

rx_done_tick

sevenOut(19:0)

keyBoardCore

Inputs   Outputs

keyBoardApp

Design Description
of keyBoardCore

state0 — Wait until rx_data_tick is high — 0

1

rx_data==F0 — y / n

Update sevenOut

state1 — Wait until rx_data_tick is high — 0

1