FPGA Concept: Course Structure: Quiz Solution

www.highlevel-synthesis.com

This file is a resource of the Udemy course: Digital System Design with High-Level Synthesis for FPGA: Combinational Circuits https://www.udemy.com/course/hls-combinational-circuits/?referralCode=8D449A491B9F4582DDEF



Vivado Design Suite User Guide

https://www.udemy.com/course/hls-combinational-circuits/?referralCode=8D449A491B9F4582DDEF **High-Level Synthesis**

UG902 (v2020.1) June 3, 2020





Table of Contents

Revision History	2
Chapter 1: High-Level Synthesis	5
High-Level Synthesis Benefits	5
High-Level Synthesis Basics	6
Understanding Vivado HLS	12
Using Vivado HLS	19
Data Types for Efficient Hardware	71
Managing Interfaces	77
Optimizing the Design	118
Verifying the RTL	177
Exporting the RTL Design	191
Chapter 2: High-Level Synthesis C Libraries	
Arbitrary Precision Data Types Library	
HLS Stream Library	
HLS Math Library	
HLS Video Library	
HLS IP Libraries	
HLS Linear Algebra Library	
HLS DSP Library	
HLS SQL Library	277
Chapter 3: High-Level Synthesis Coding Styles	270
Unsupported C Constructs	
C Test Bench	
Functions	
RTL Blackbox	
Loops	
Arrays	
Data Types	
C Builtin Functions	
	333

UG902 (v2020.1) June 3, 2020



www.xilinx.com

3



	Hardware Efficient C Code	340
	C++ Classes and Templates	358
	Assertions	366
	SystemC Synthesis	369
_		
C	hapter 4: High-Level Synthesis Reference Guide	
	Command Reference	388
	GUI Reference	462
	Interface Synthesis Reference	465
	AXI4-Lite Slave C Driver Reference	483
	HLS Video Functions Library	496
	HLS Linear Algebra Library Functions	496
	HLS DSP Library Functions	505
	HLS SQL Library Functions	518
	C Arbitrary Precision Types	
	C++ Arbitrary Precision Types	535
	C++ Arbitrary Precision Fixed-Point Types	555
	Comparison of SystemC and Vivado HLS Types	577
	RTL Blackbox JSON File	
	and the second s	
A	ppendix A: Additional Resources and Legal Notices	
	Xilinx Resources	
	Documentation Navigator and Design Hubs	587
	References	587
	Please Read: Important Legal Notices	588

UG902 (v2020.1) June 3, 2020



www.xilinx.com