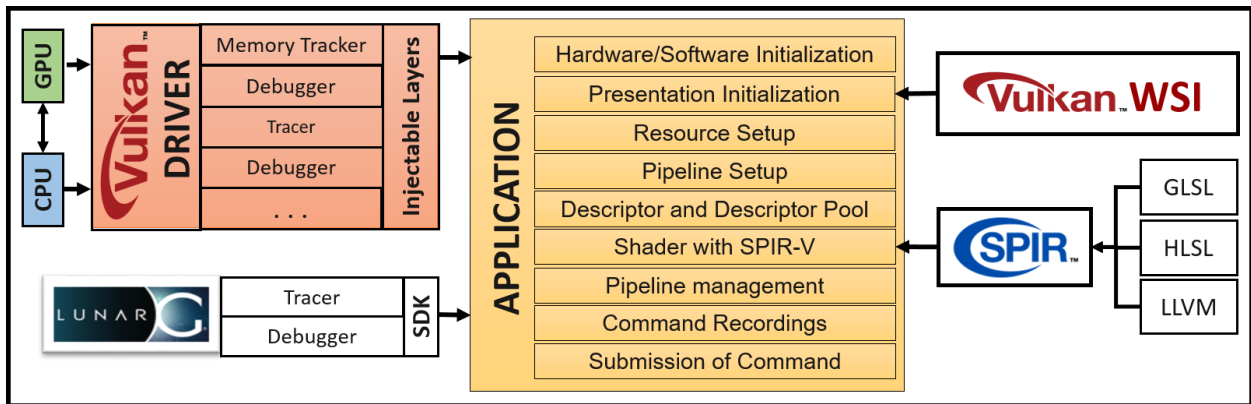
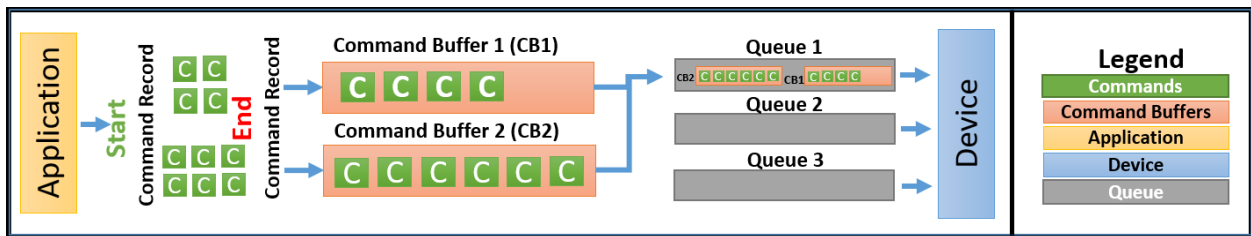
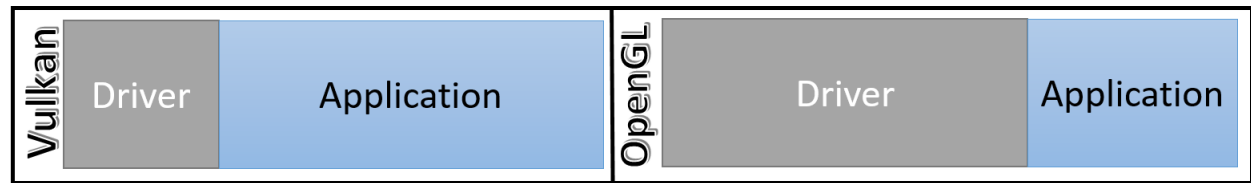
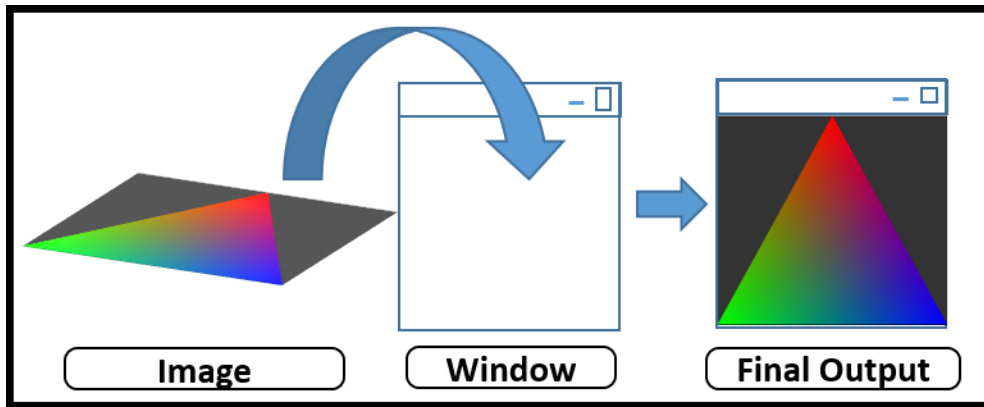
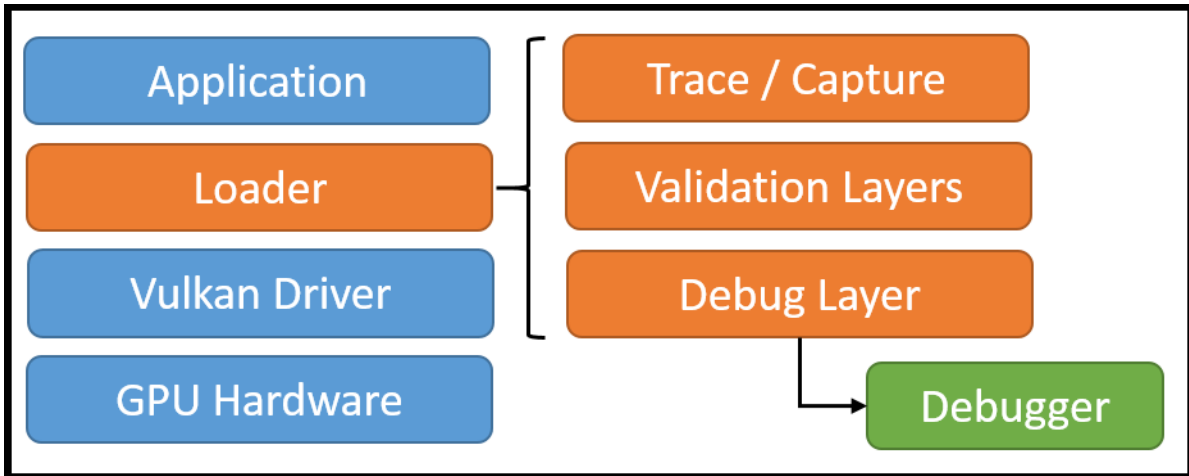
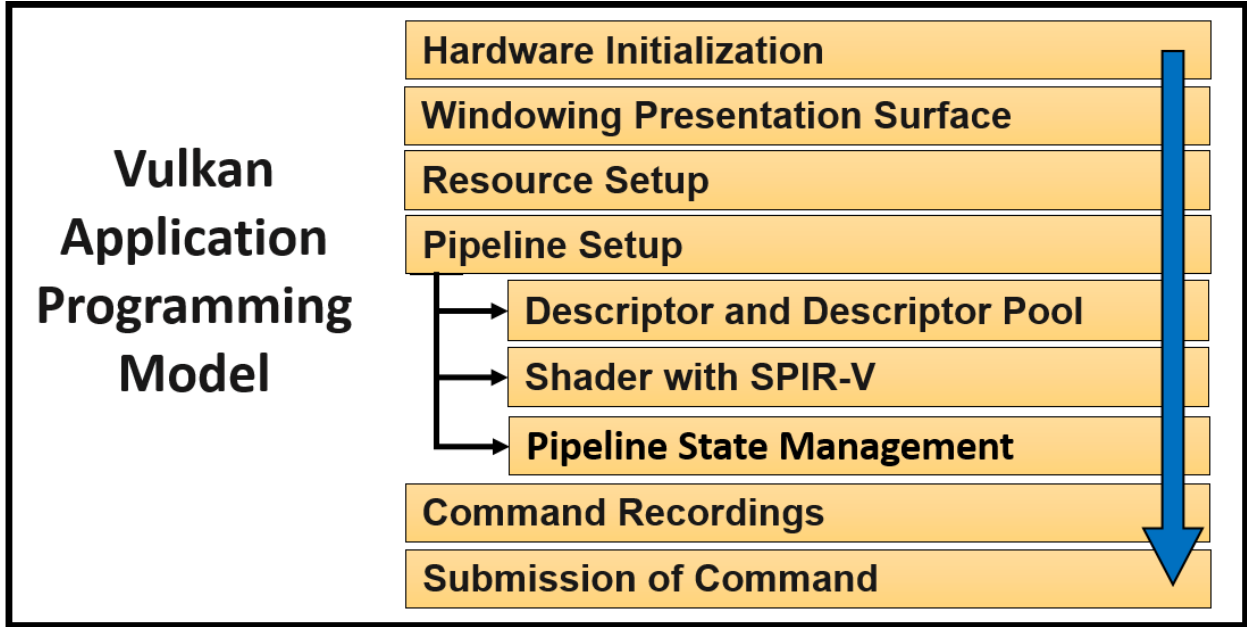
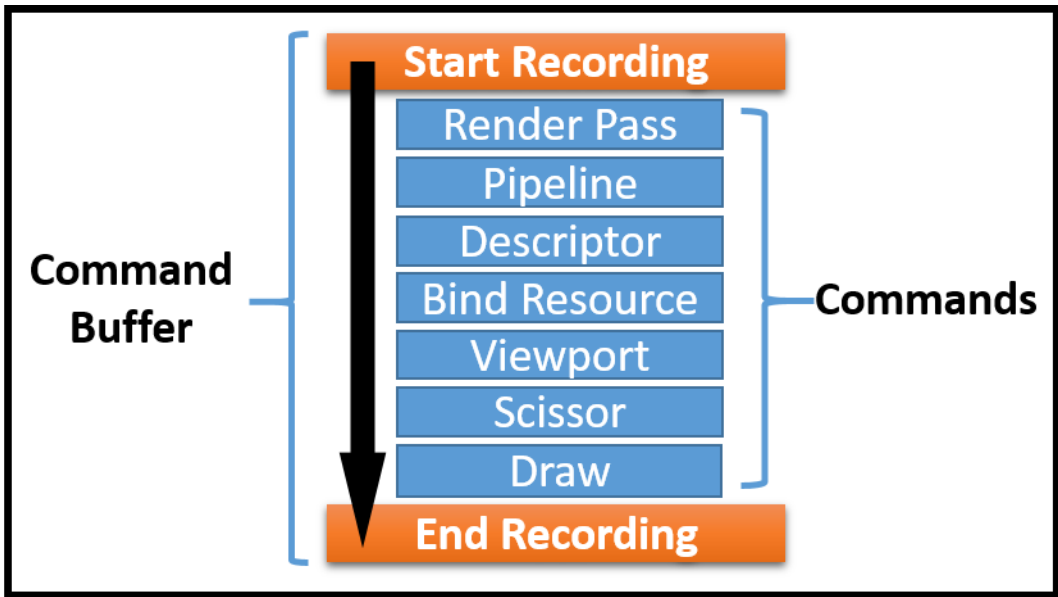
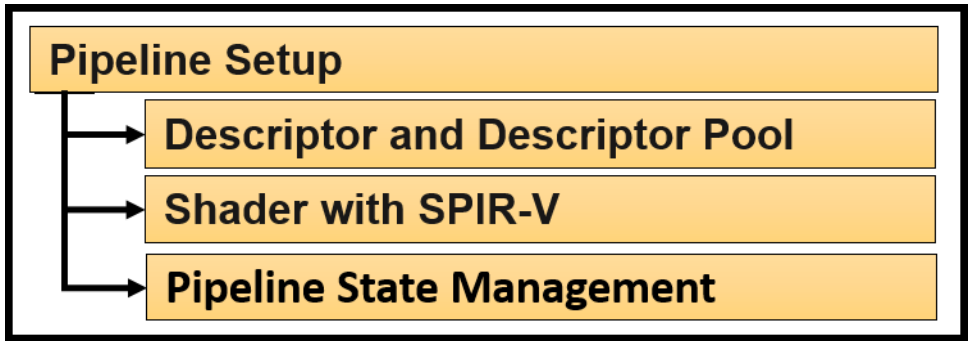
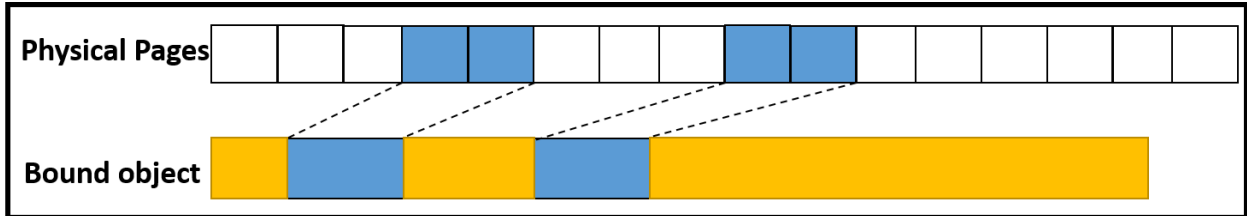
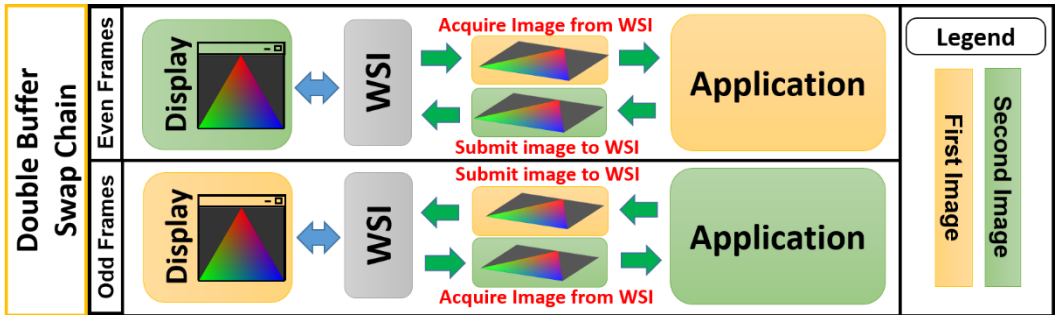
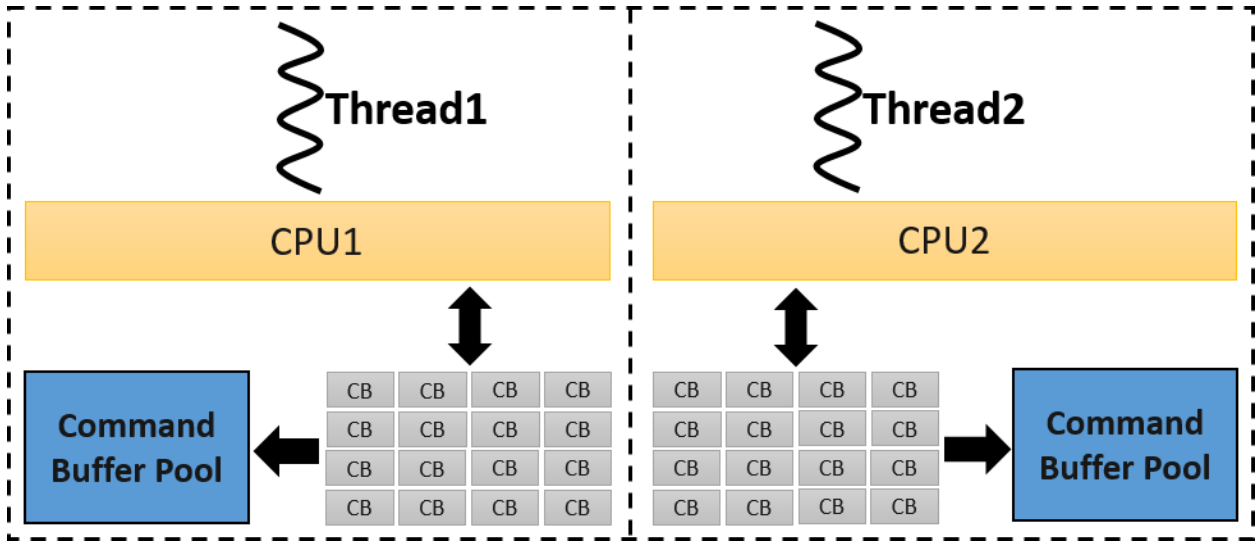


Chapter 1: Getting Started with the NextGen 3D Graphics API

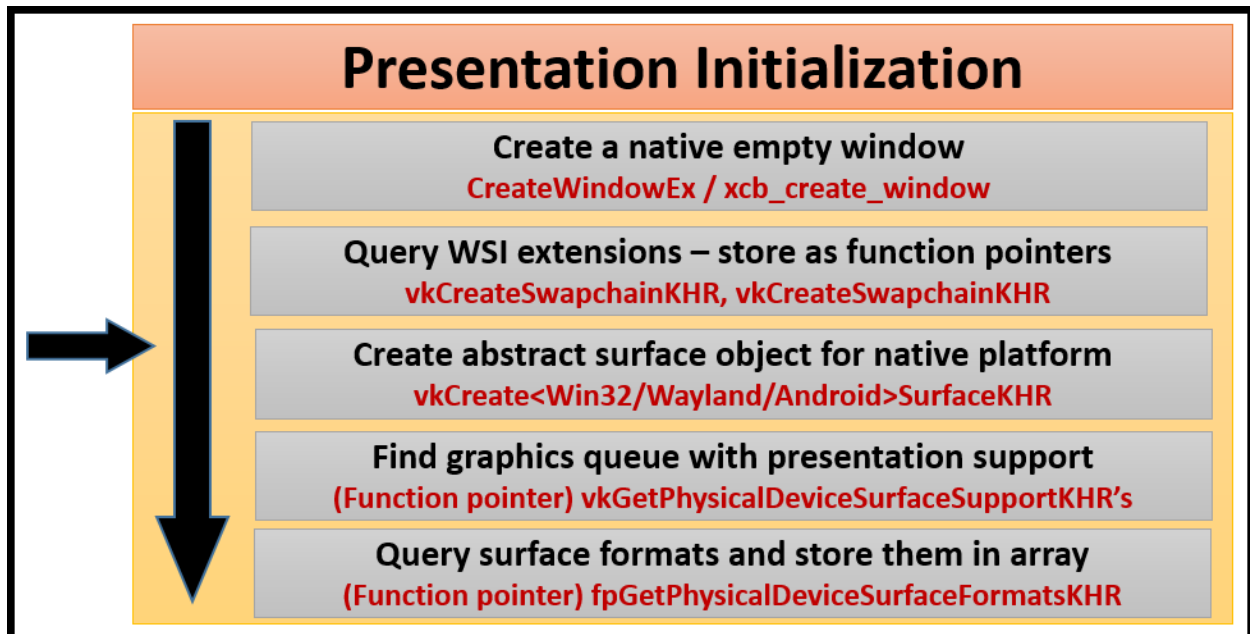
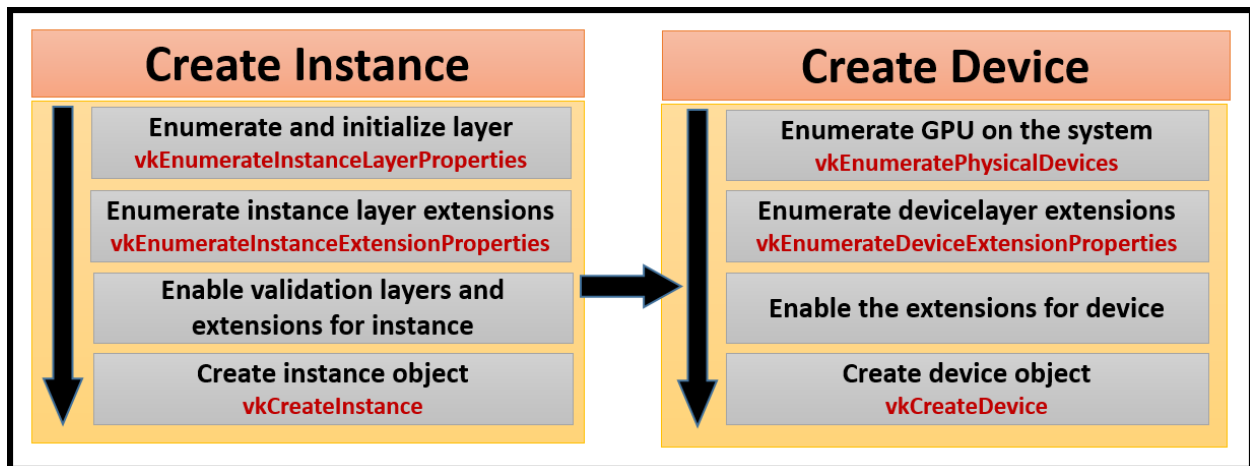
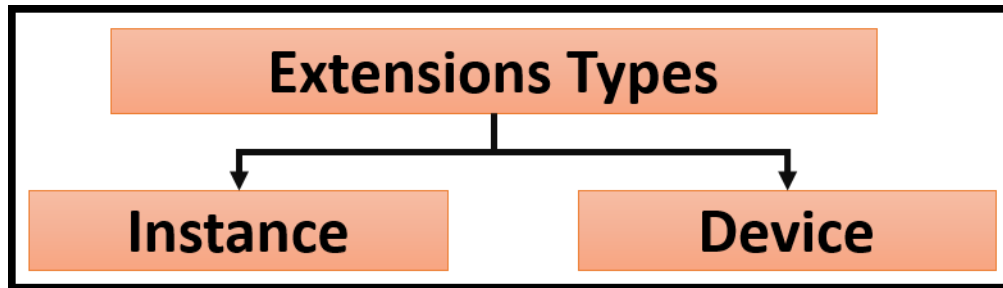


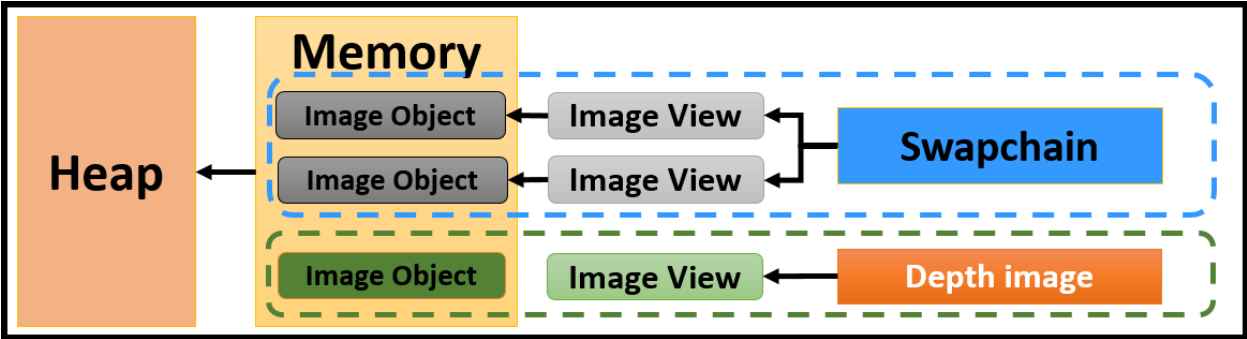
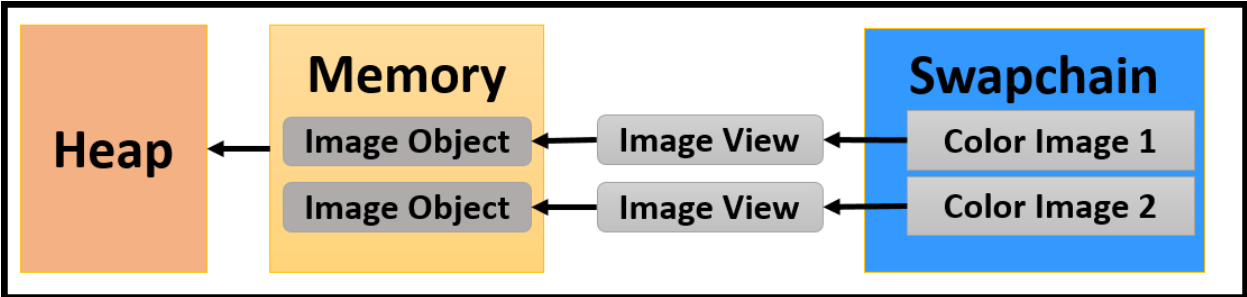
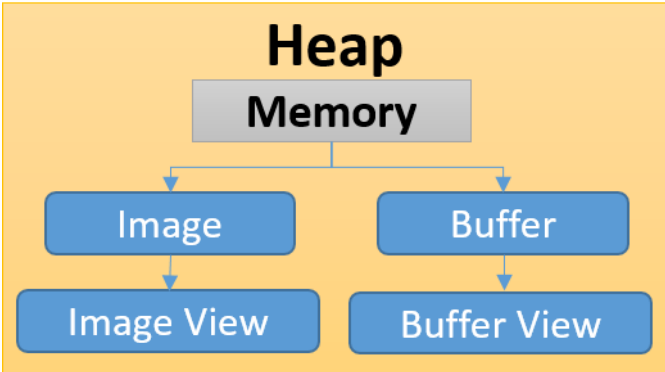
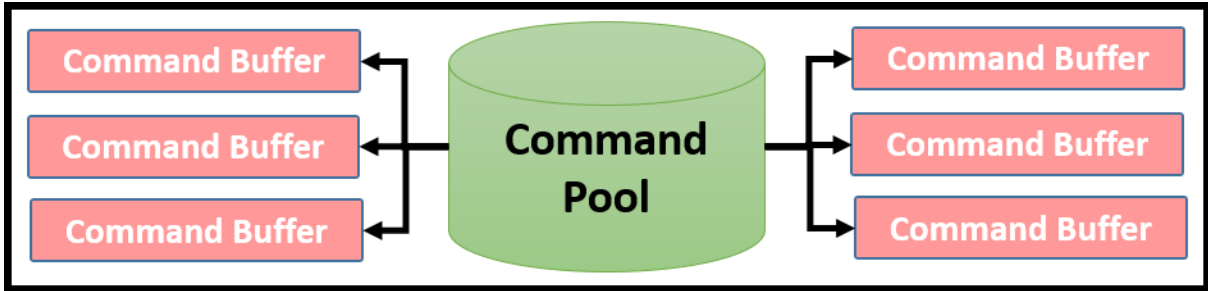


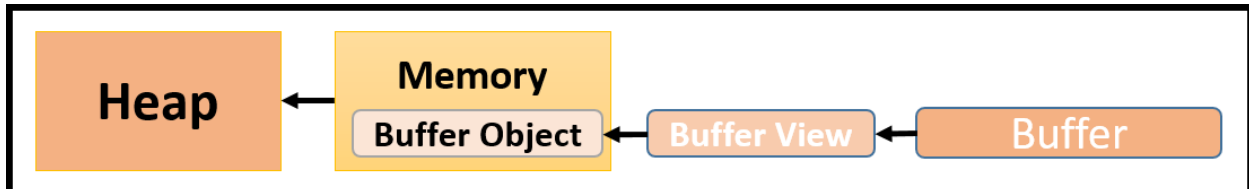
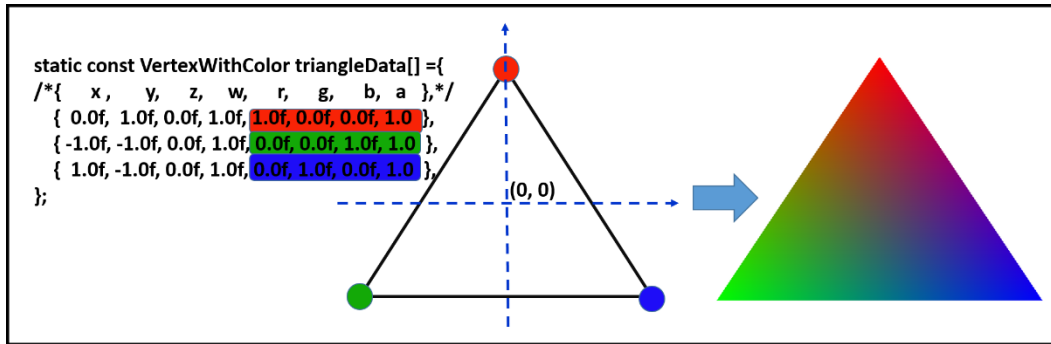
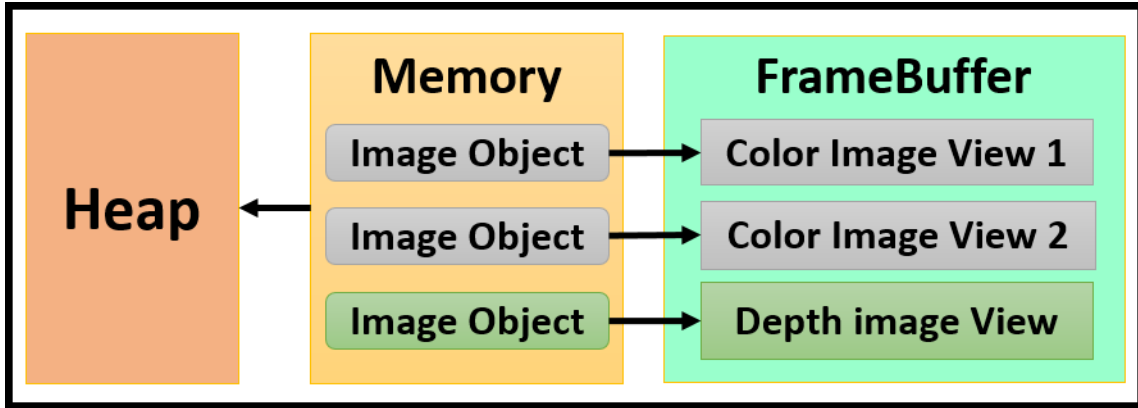


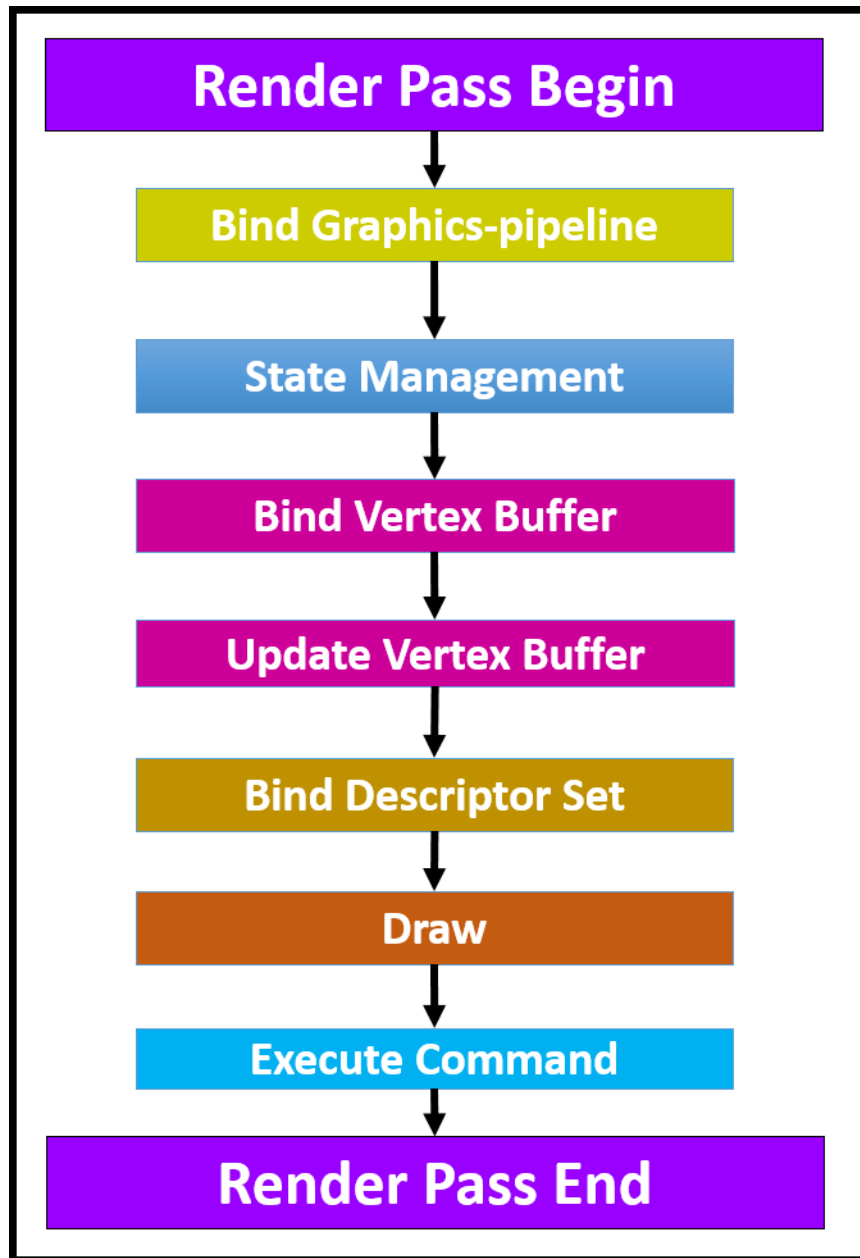


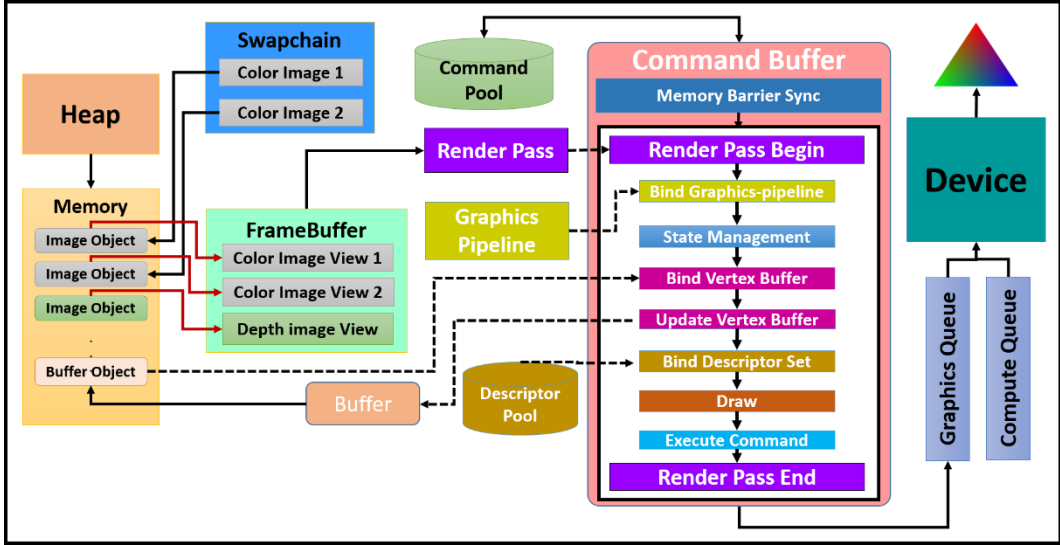
Chapter 2: Your First Vulkan Pseudo Program





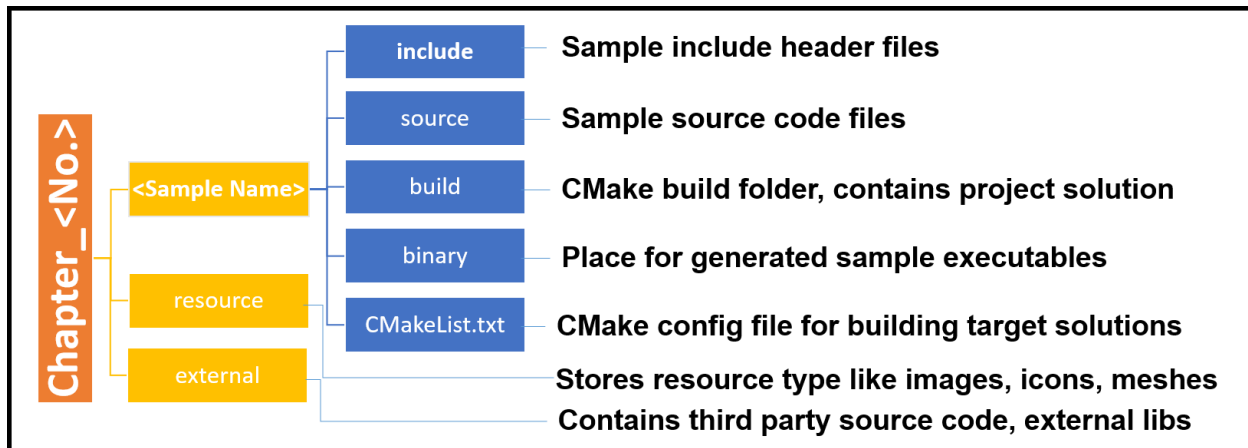
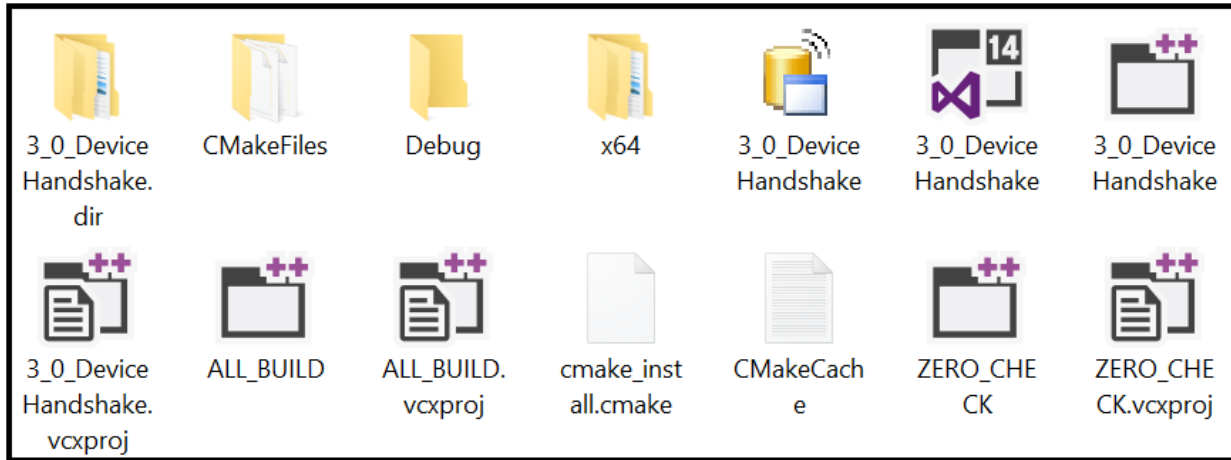




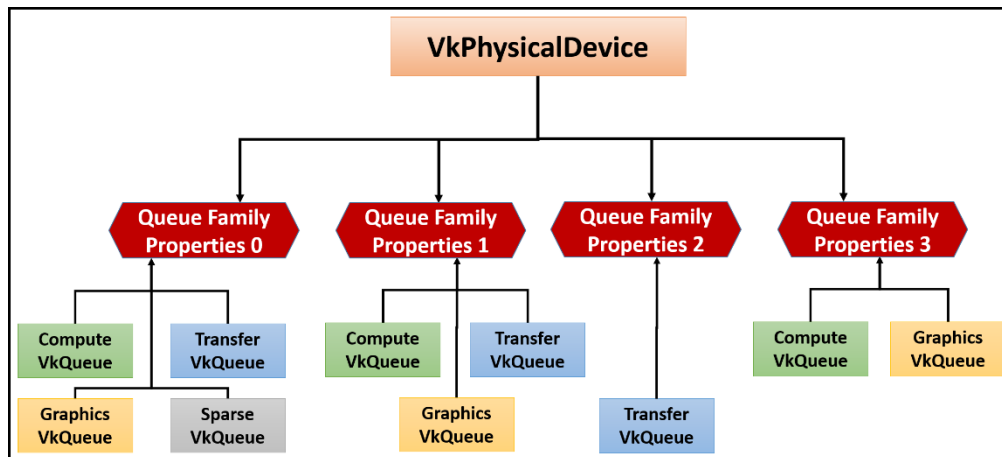
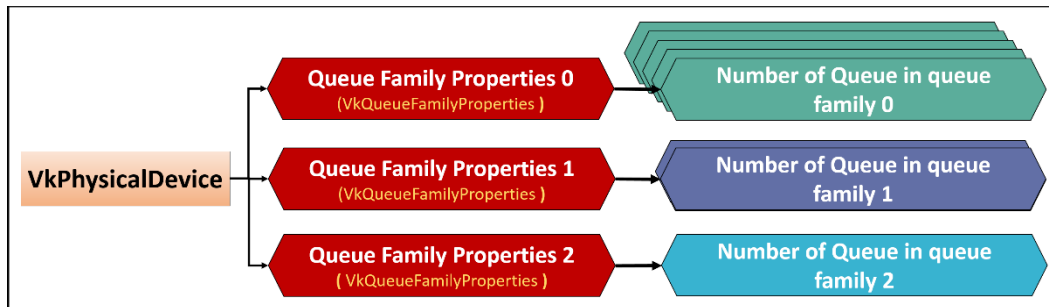
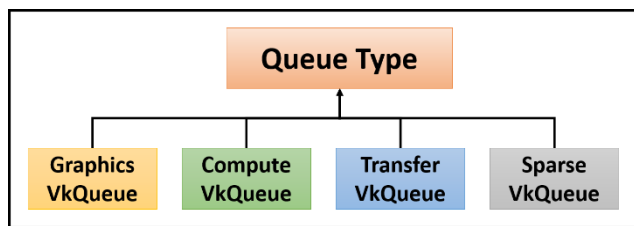
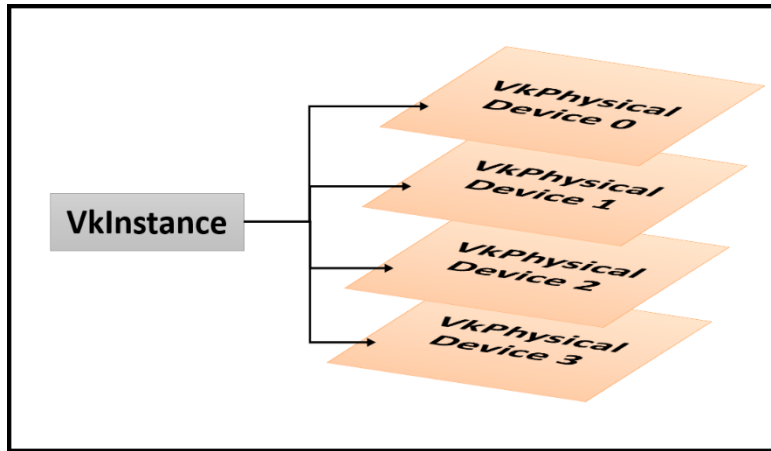


Chapter 3: Shaking Hands with the Device

```
C:\WINDOWS\system32\cmd.exe
C:\VulkanEssentials\chapter_3\HandShake\build>cmake -G "Visual Studio 14 2015 Win64" ..
```



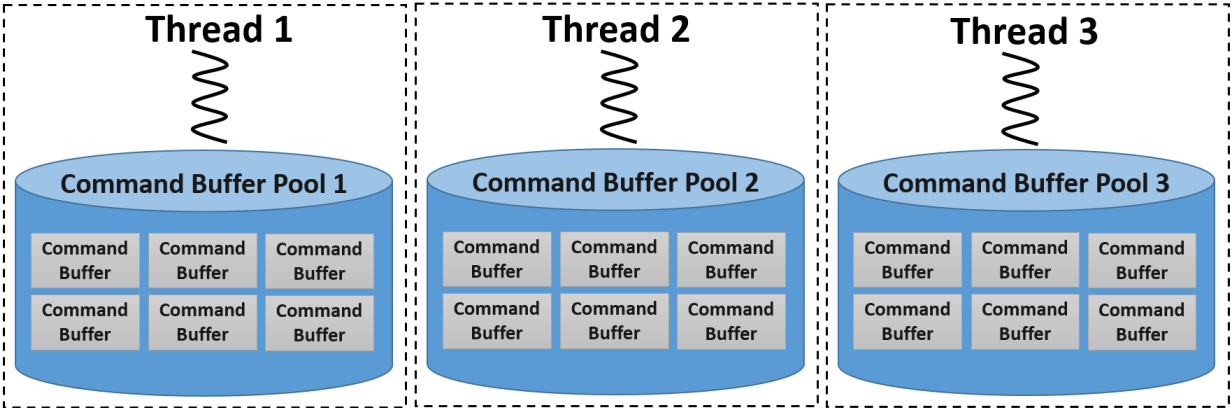
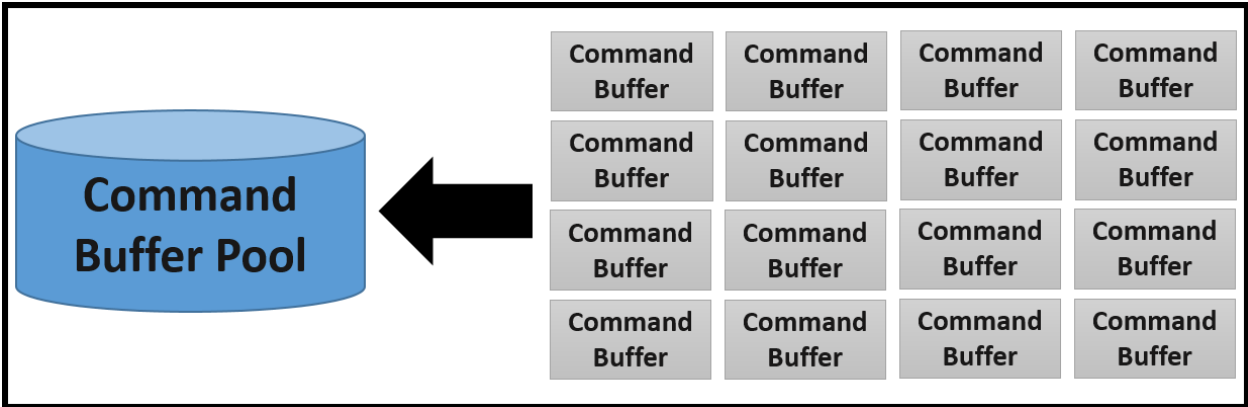
```
C:\WINDOWS\system32\cmd.exe
C:\VulkanEssentials\chapter_3\HandShake\binaries>3_0_DeviceHandshake.exe > apiDump.txt
```

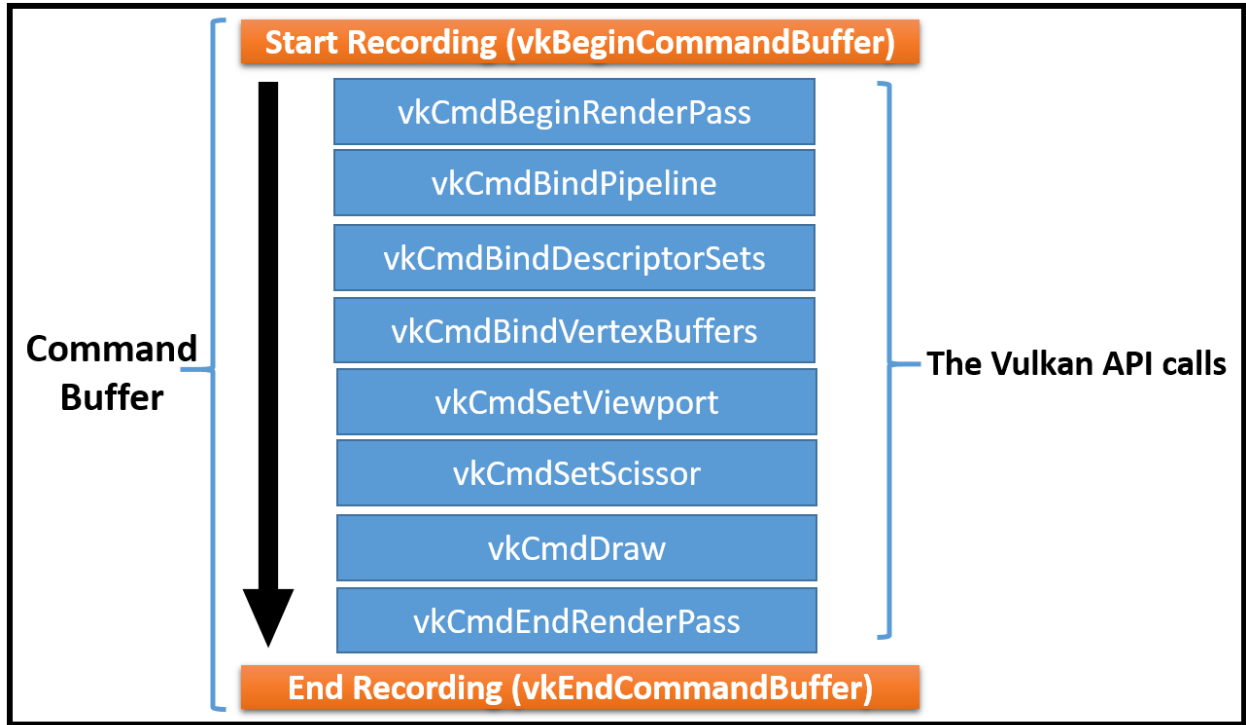


Chapter 4: Debugging in Vulkan

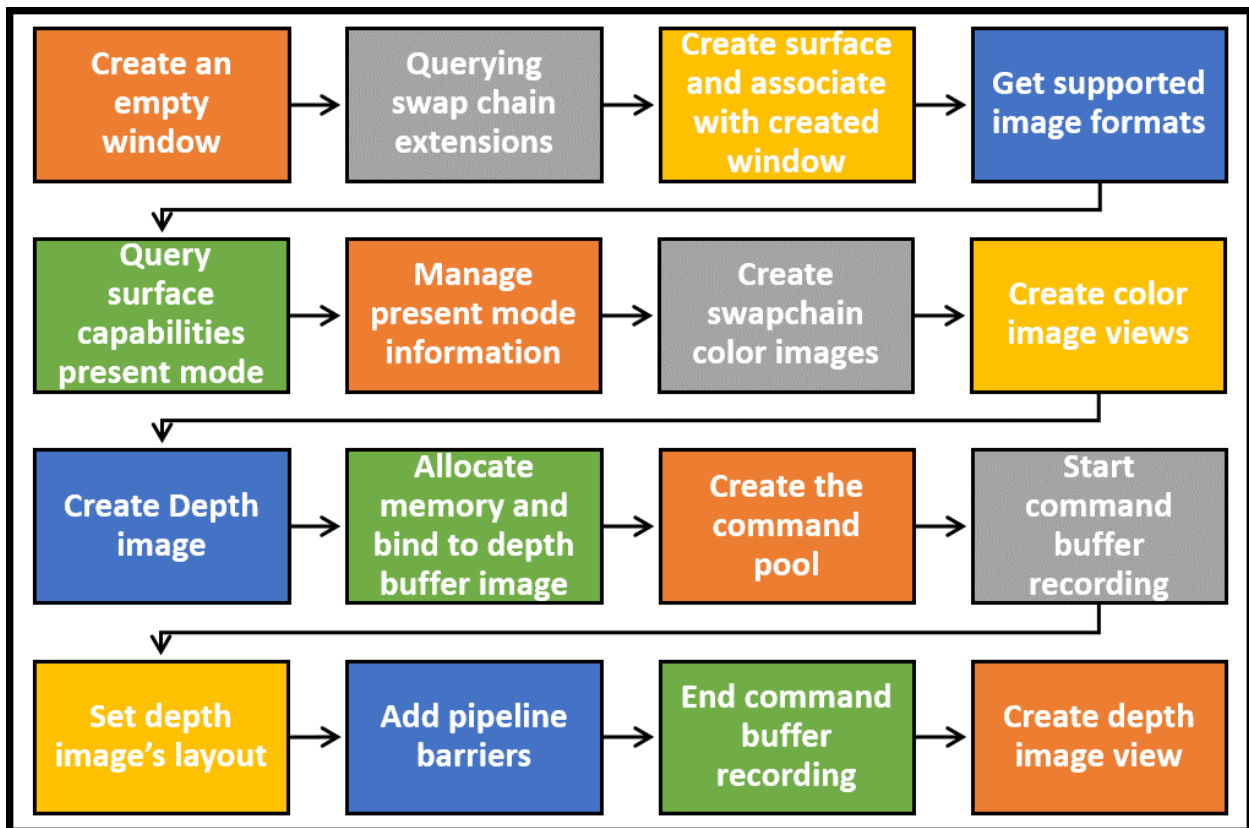
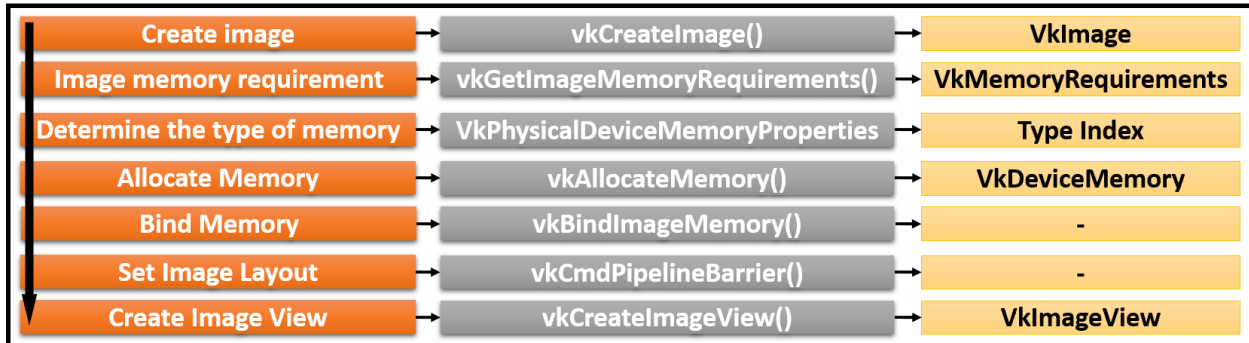
```
C:\WINDOWS\system32\cmd.exe
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : Device Extension: VK_KHR_swapchain (C:\Windows\System32\nvoglv64.dll) version 0.0.67
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : Device Extension: VK_NV_glsl_shader (C:\Windows\System32\nvoglv64.dll) version 0.0.1
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : Device Extension: VK_KHR_sampler_mirror_clamp_to_edge (C:\Windows\System32\nvoglv64.dll) version 0.0.1
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : Device Extension: VK_KHR_swapchain (Unknown) version 0.0.67
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : Device Extension: VK_NV_glsl_shader (Unknown) version 0.0.1
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : Device Extension: VK_KHR_sampler_mirror_clamp_to_edge (Unknown) version 0.0.1
[VK_DEBUG_REPORT] WARNING: [loader] Code 0 : Warning, couldn't find layer name VK_LAYER_LUNARG_api_dumpXXX to activate
[VK_DEBUG_REPORT] WARNING: [loader] Code 0 : Warning, couldn't find layer name VK_LAYER_LUNARG_api_dumpXXX to activate
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : device Chain: Increment layer reference count for layer library C:\WulkanSDK\1.0.8.0\Bin\VKLayer_swapchain.dll
[VK_DEBUG_REPORT] INFORMATION: [loader] Code 0 : Insert device layer VK_LAYER_LUNARG_swapchain (C:\WulkanSDK\1.0.8.0\Bin\VKLayer_swapchain.dll)
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : device Chain: Increment layer reference count for layer library C:\WulkanSDK\1.0.8.0\Bin\VKLayer_core_validation.dll
[VK_DEBUG_REPORT] INFORMATION: [loader] Code 0 : Insert device layer VK_LAYER_LUNARG_core_validation (C:\WulkanSDK\1.0.8.0\Bin\VKLayer_core_validation.dll)
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : device Chain: Increment layer reference count for layer library C:\WulkanSDK\1.0.8.0\Bin\VKLayer_image.dll
[VK_DEBUG_REPORT] INFORMATION: [loader] Code 0 : Insert device layer VK_LAYER_LUNARG_image (C:\WulkanSDK\1.0.8.0\Bin\VKLayer_image.dll)
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : device Chain: Increment layer reference count for layer library C:\WulkanSDK\1.0.8.0\Bin\VKLayer_object_tracker.dll
[VK_DEBUG_REPORT] INFORMATION: [loader] Code 0 : Insert device layer VK_LAYER_LUNARG_object_tracker (C:\WulkanSDK\1.0.8.0\Bin\VKLayer_object_tracker.dll)
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : device Chain: Increment layer reference count for layer library C:\WulkanSDK\1.0.8.0\Bin\VKLayer_device_limits.dll
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[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : device Chain: Increment layer reference count for layer library C:\WulkanSDK\1.0.8.0\Bin\VKLayer_parameter_validation.dll
[VK_DEBUG_REPORT] INFORMATION: [loader] Code 0 : Insert device layer VK_LAYER_LUNARG_parameter_validation (C:\WulkanSDK\1.0.8.0\Bin\VKLayer_parameter_validation.dll)
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : device Chain: Increment layer reference count for layer library C:\WulkanSDK\1.0.8.0\Bin\VKLayer_threading.dll
[VK_DEBUG_REPORT] INFORMATION: [loader] Code 0 : Insert device layer VK_LAYER_GOOGLE_threading (C:\WulkanSDK\1.0.8.0\Bin\VKLayer_threading.dll)
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : Device Extension: VK_KHR_swapchain (C:\Windows\System32\nvoglv64.dll) version 0.0.67
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : Device Extension: VK_NV_glsl_shader (C:\Windows\System32\nvoglv64.dll) version 0.0.1
[VK_DEBUG_REPORT] DEBUG: [loader] Code 0 : Device Extension: VK_KHR_sampler_mirror_clamp_to_edge (C:\Windows\System32\nvoglv64.dll) version 0.0.1
[VK_DEBUG_REPORT] INFORMATION: [OBJTRACK] Code 0 : OBJ[2] : CREATE VK_DEBUG_REPORT_OBJECT_TYPE_DEVICE_EXT object 0x1f2e27e580
Press any key to continue . . .
```

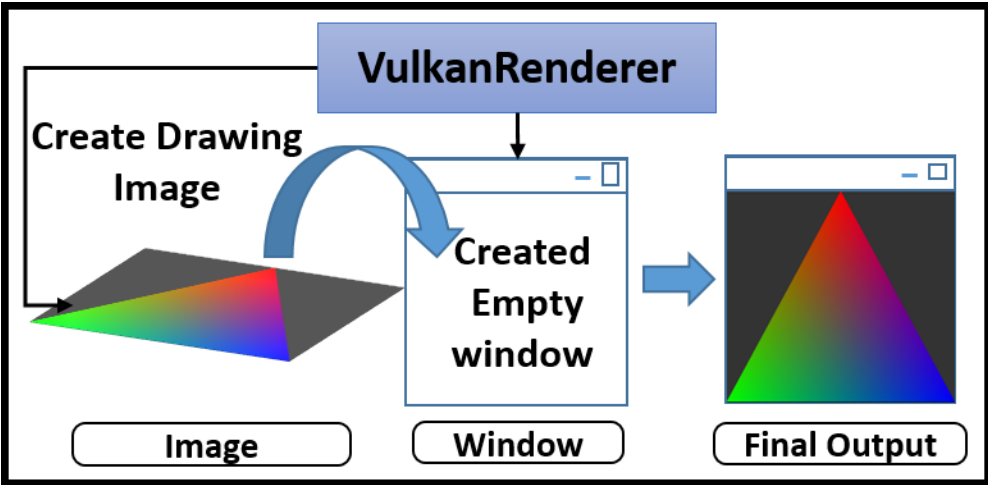
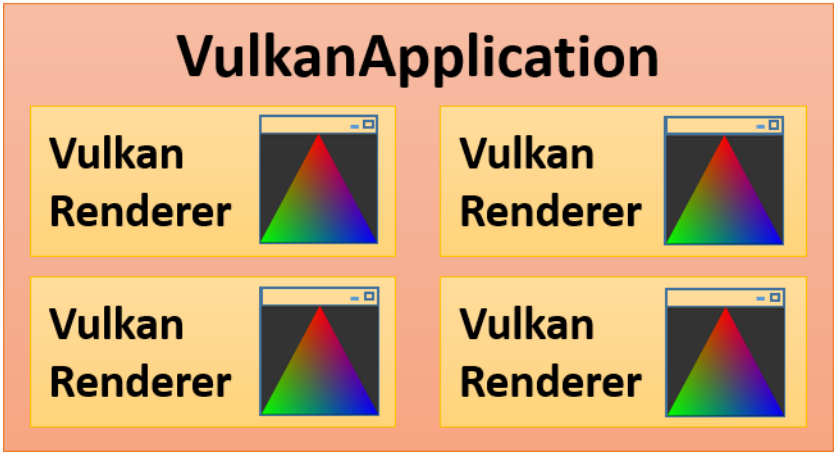
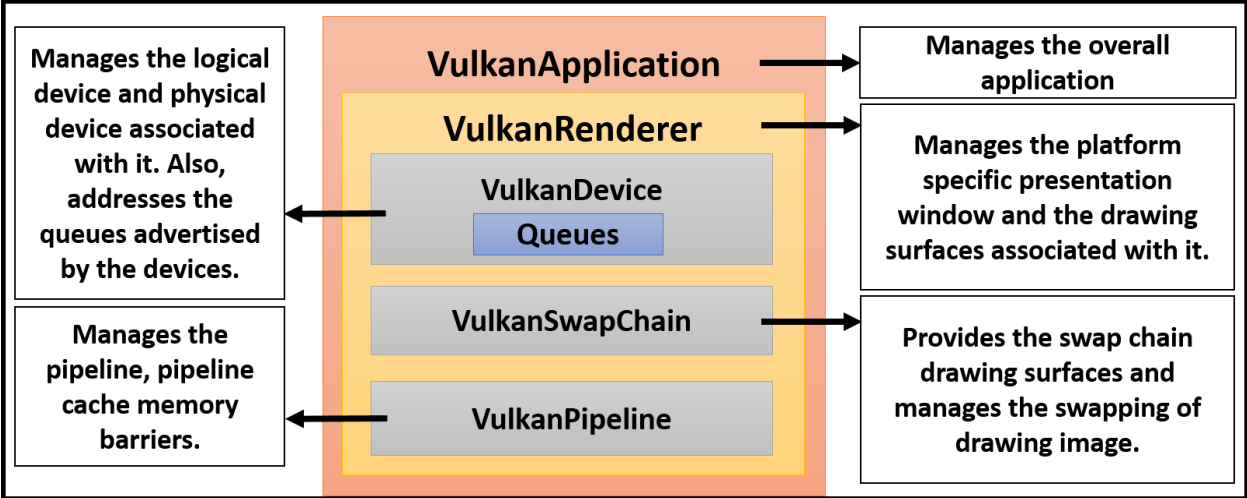
Chapter 5: Command Buffer and Memory Management in Vulkan

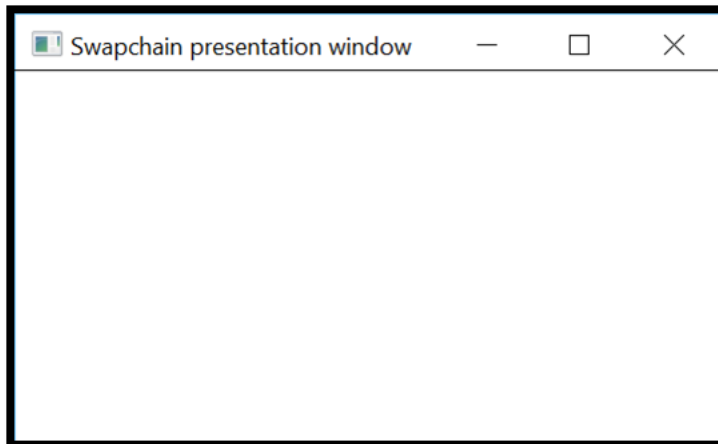
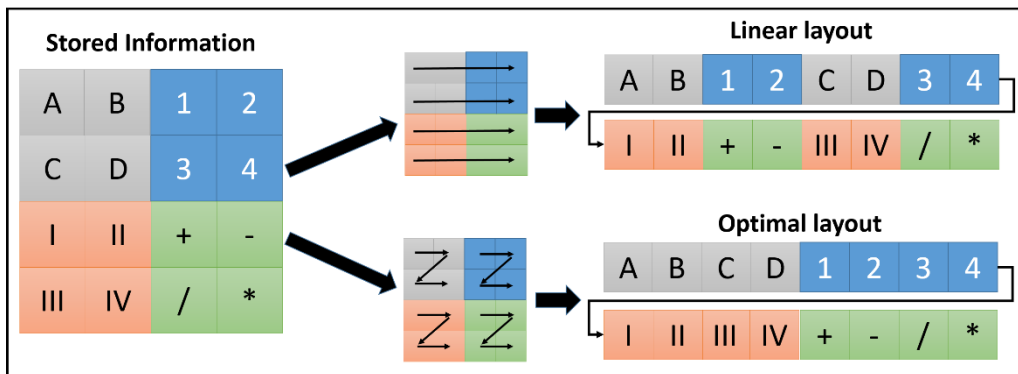
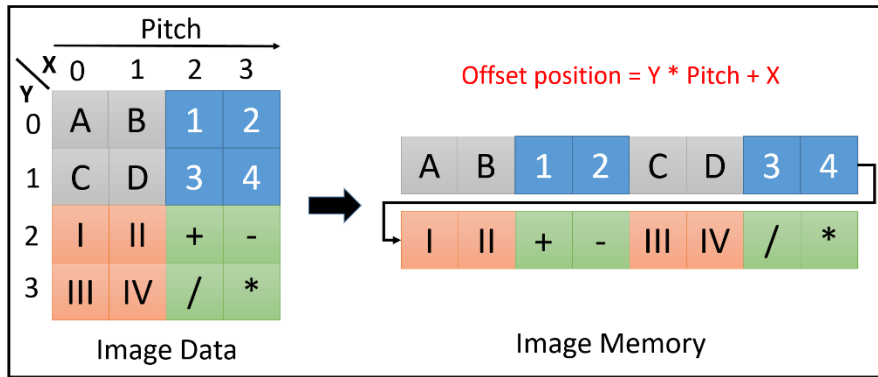
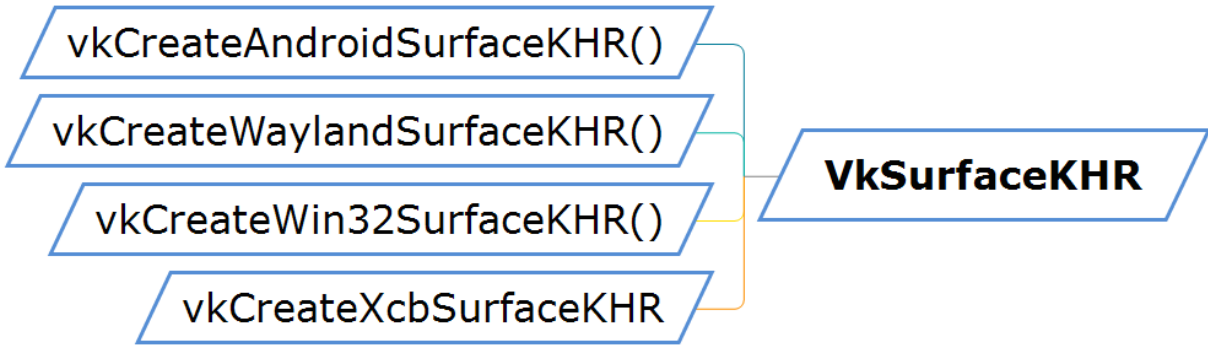




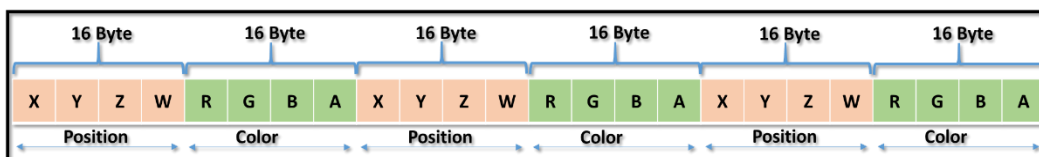
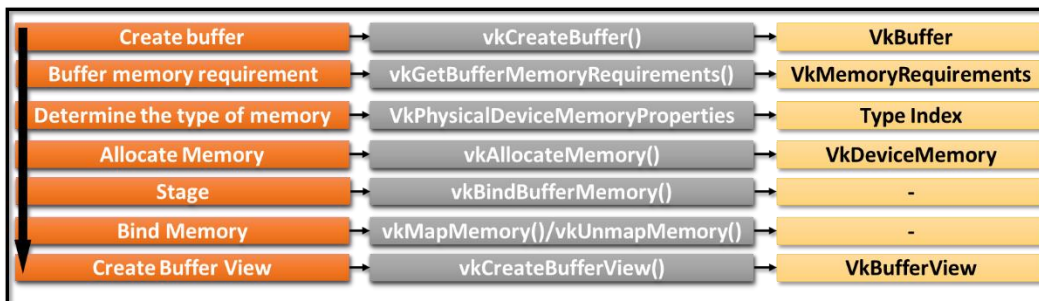
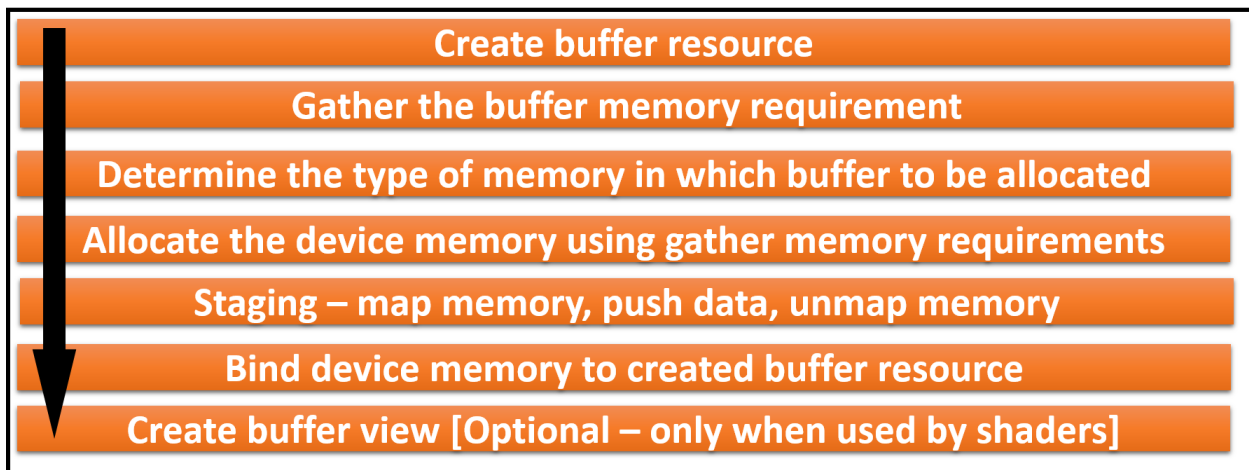
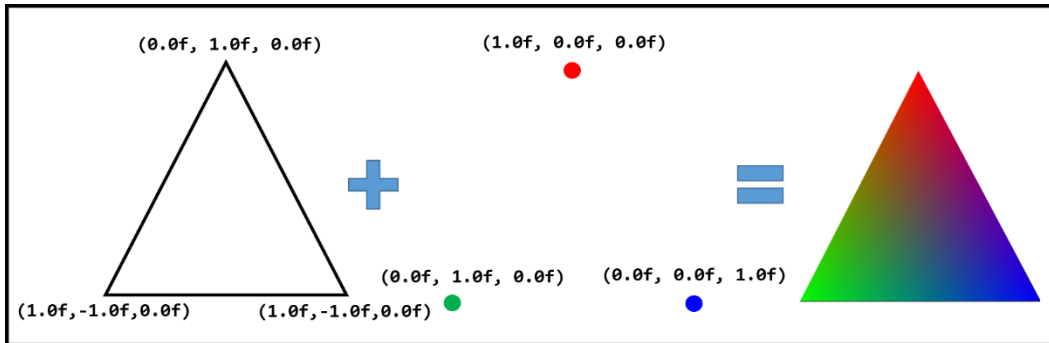
Chapter 6: Allocating Image Resources and Building a Swapchain with WSI

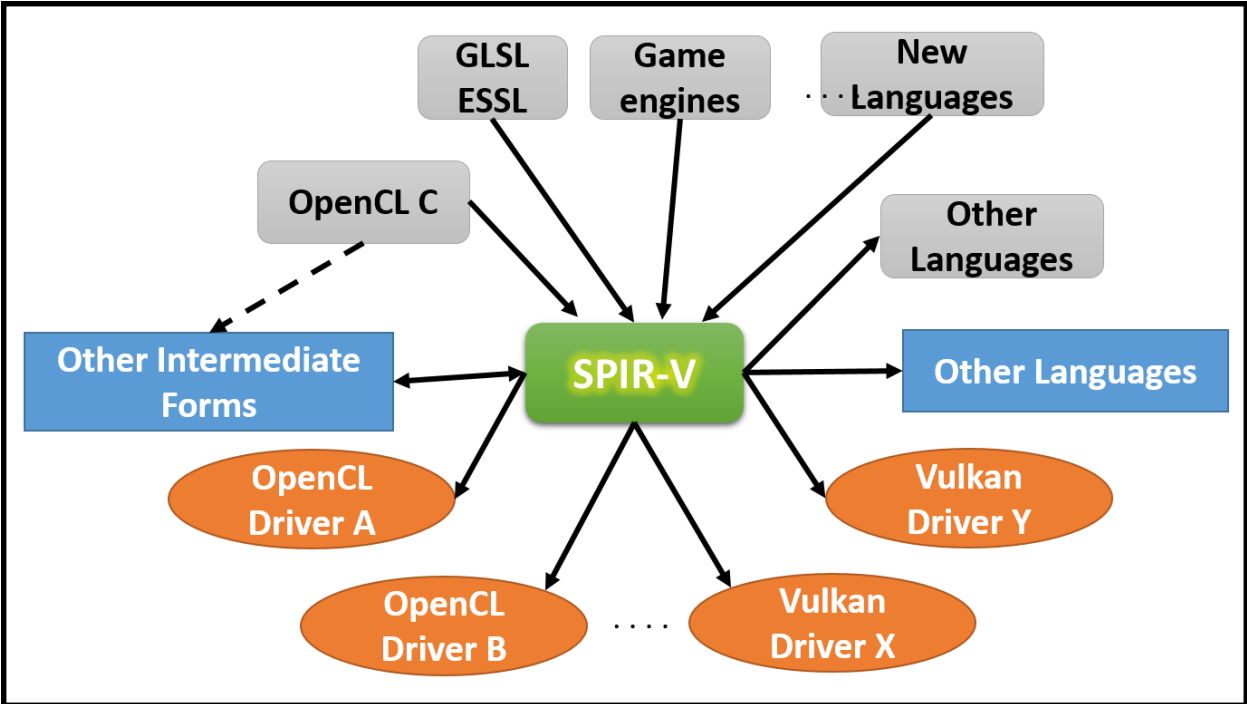
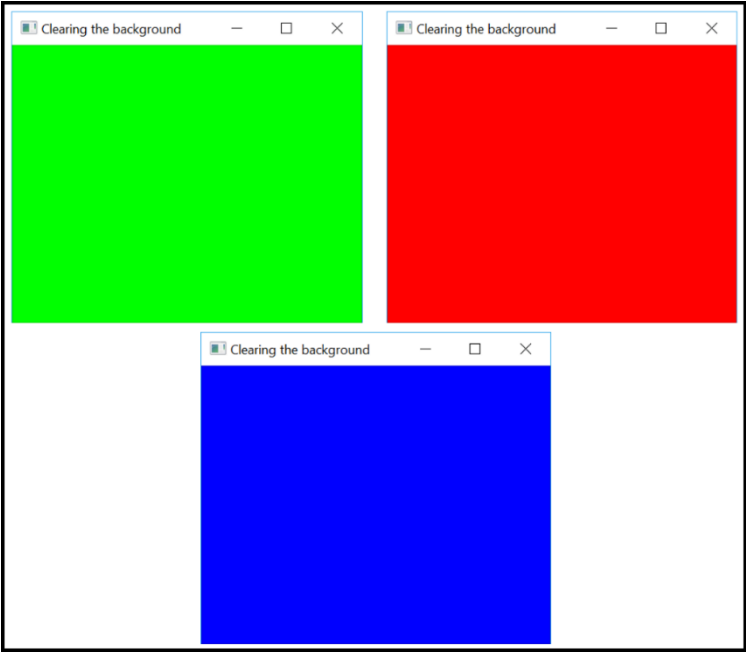
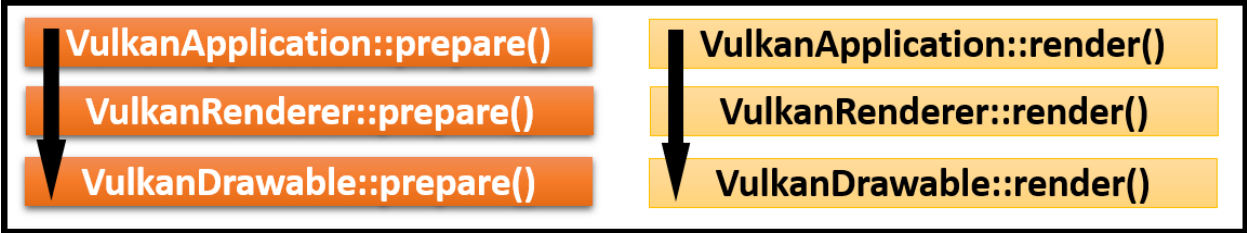


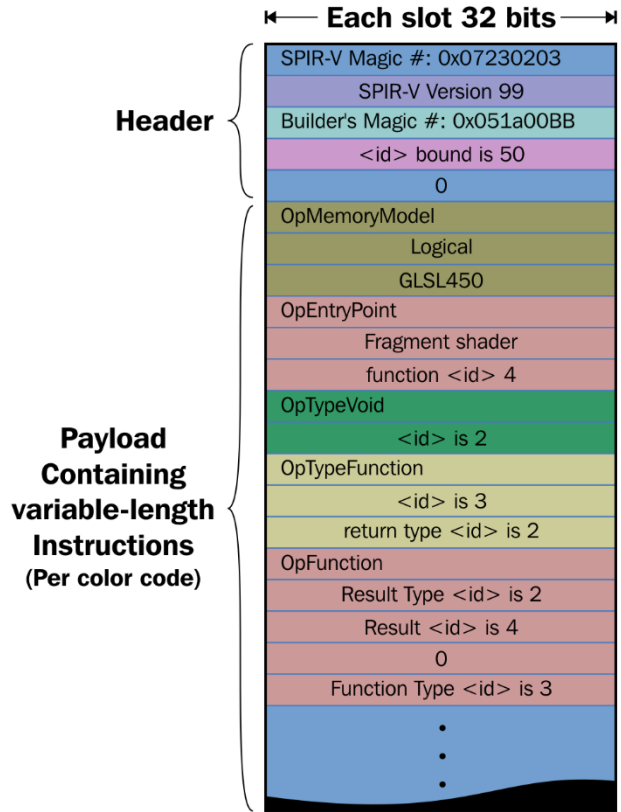




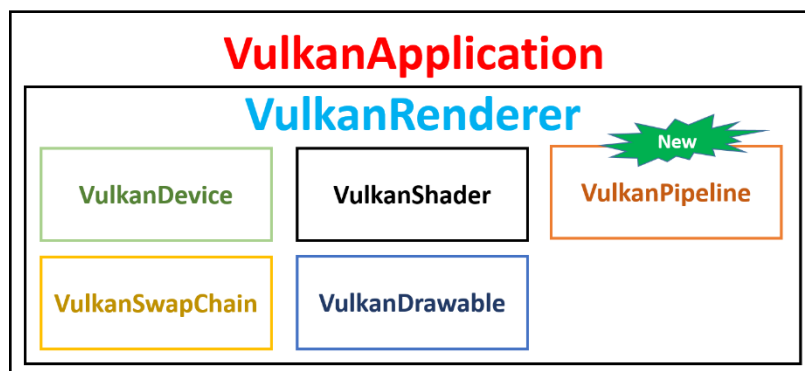
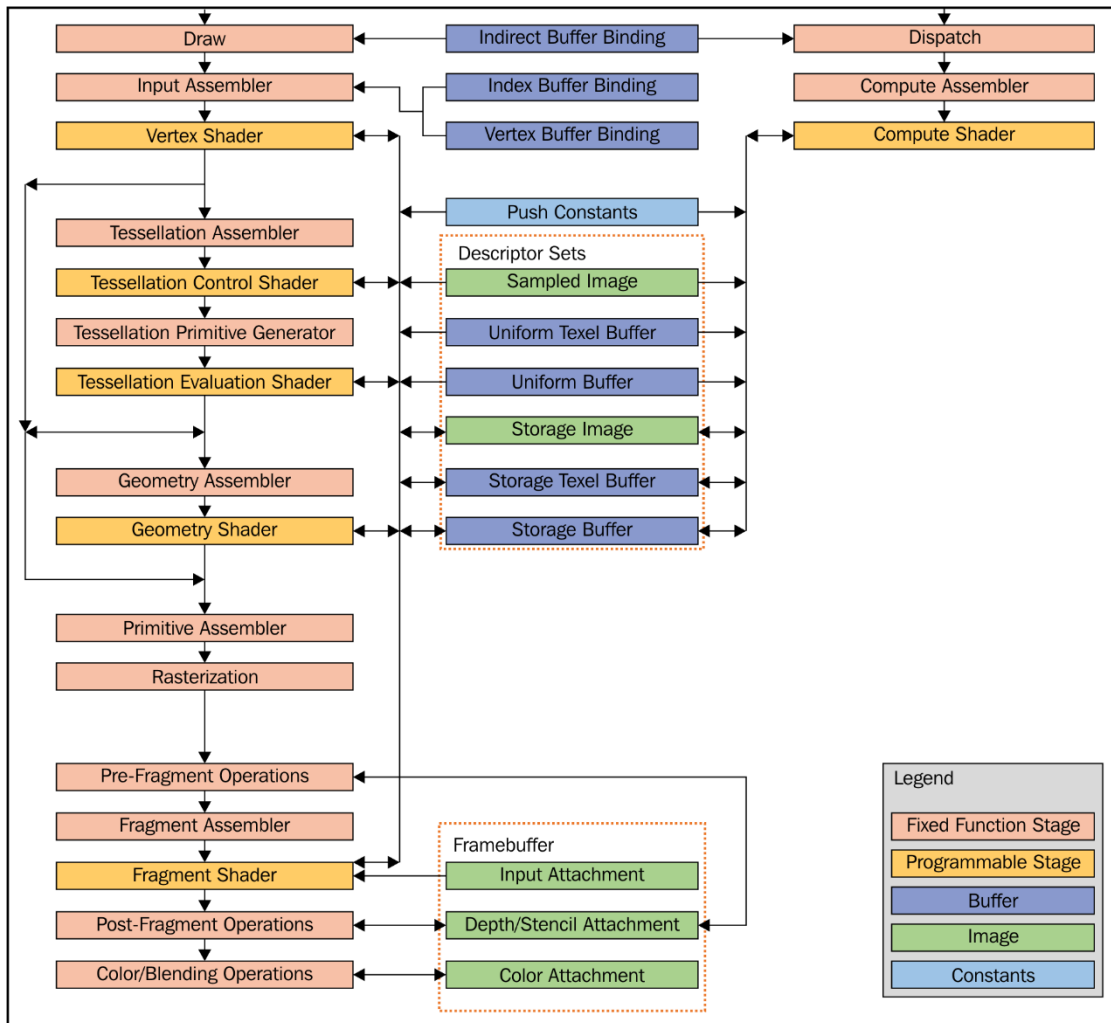
Chapter 7: Buffer Resource, Render Pass, Framebuffer, and Shaders with SPIR-V

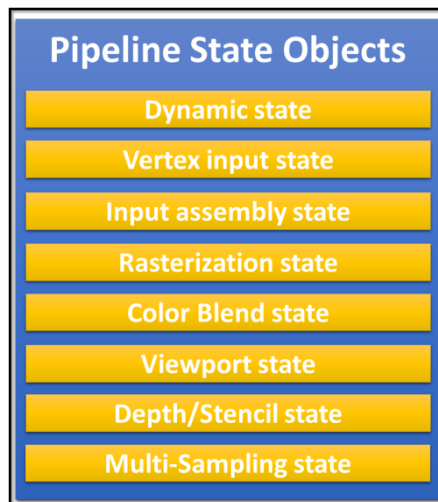
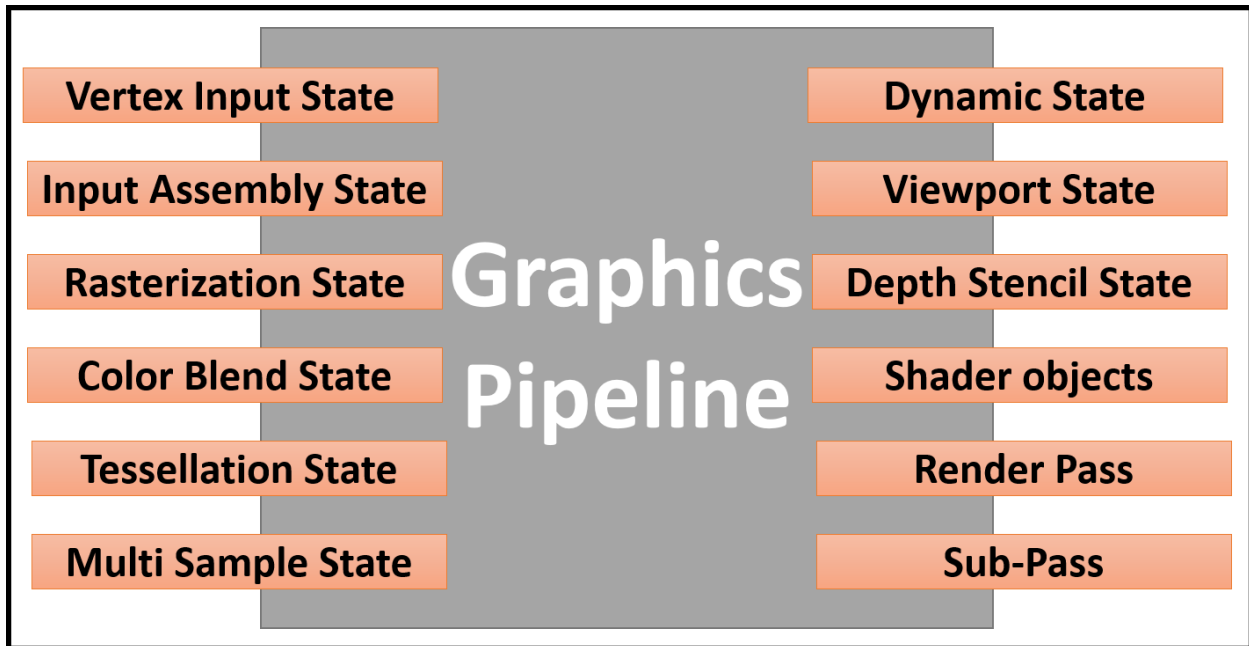
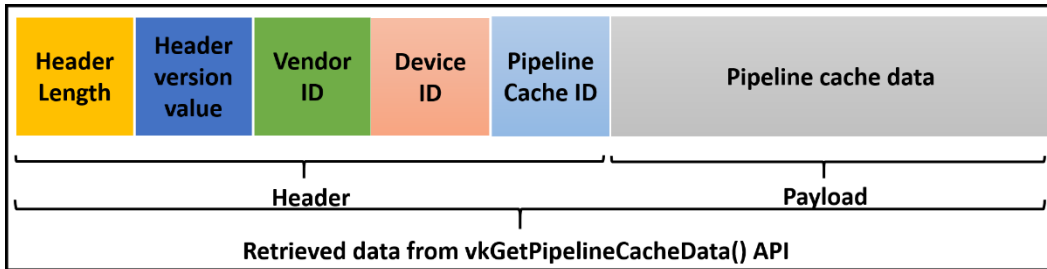


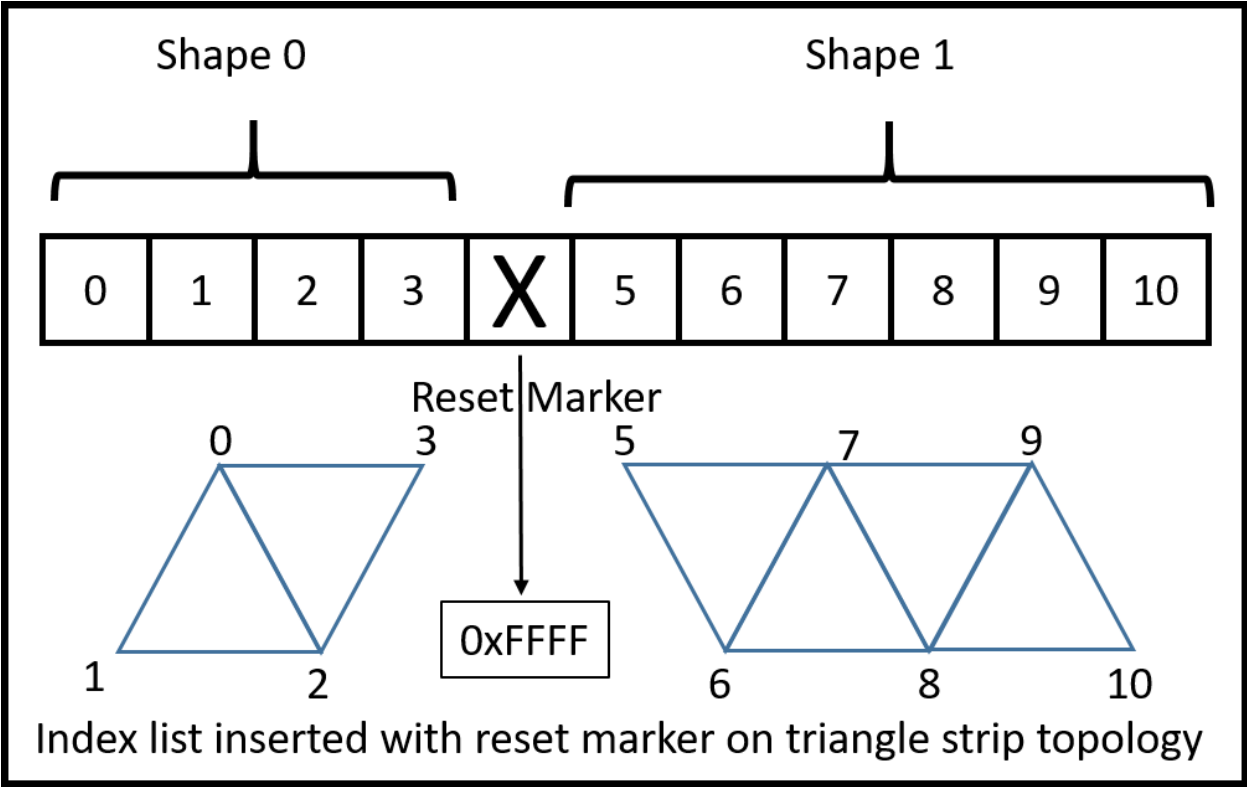
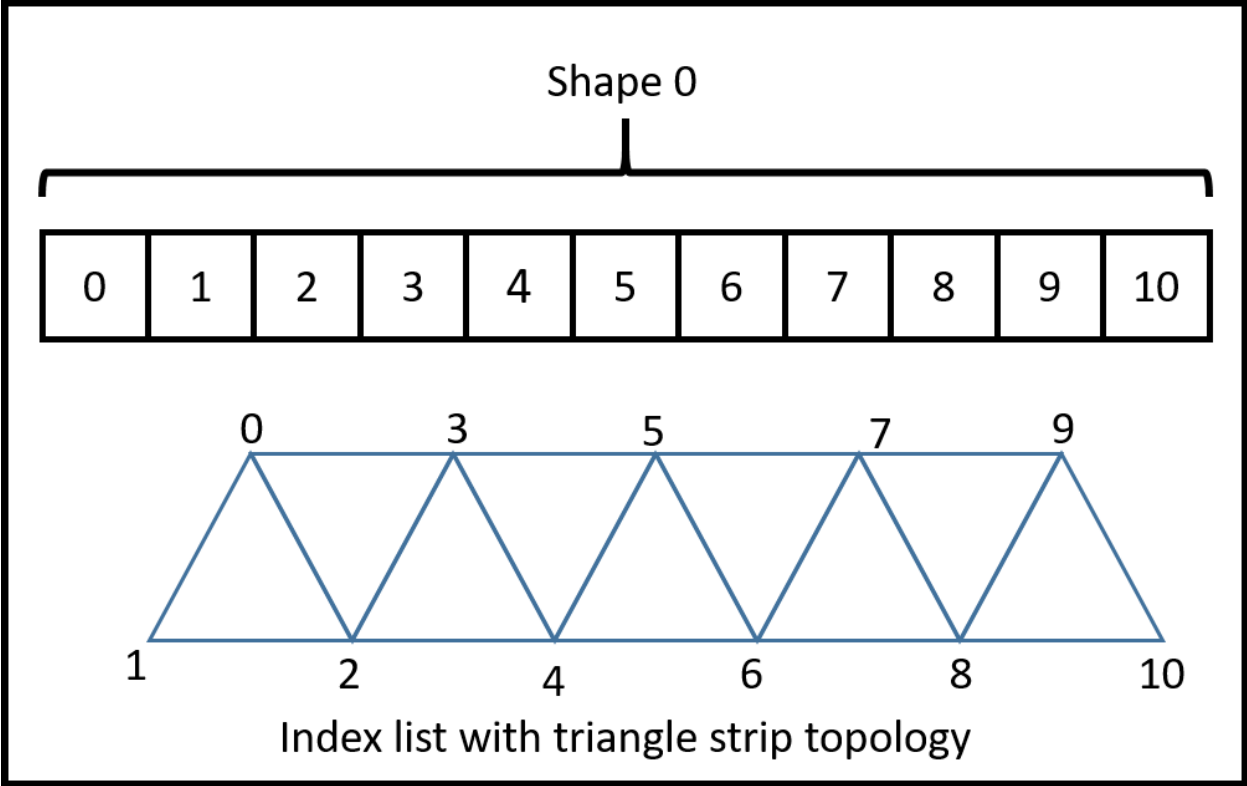


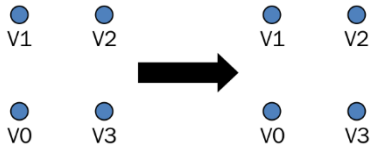


Chapter 8: Pipelines and Pipeline State Management

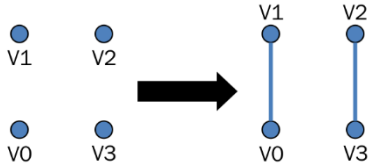




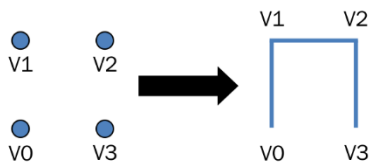




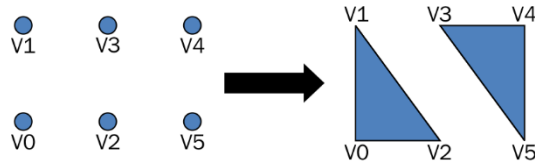
VK_PRIMITIVE_TOPOLOGY_LINE_LIST



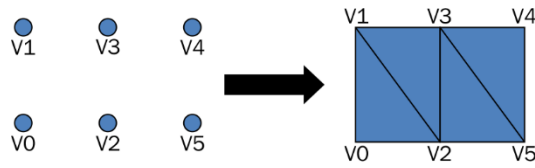
VK_PRIMITIVE_TOPOLOGY_LINE_STRIP



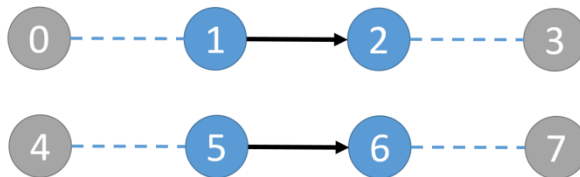
VK_PRIMITIVE_TOPOLOGY_TRIANGLE_LIST

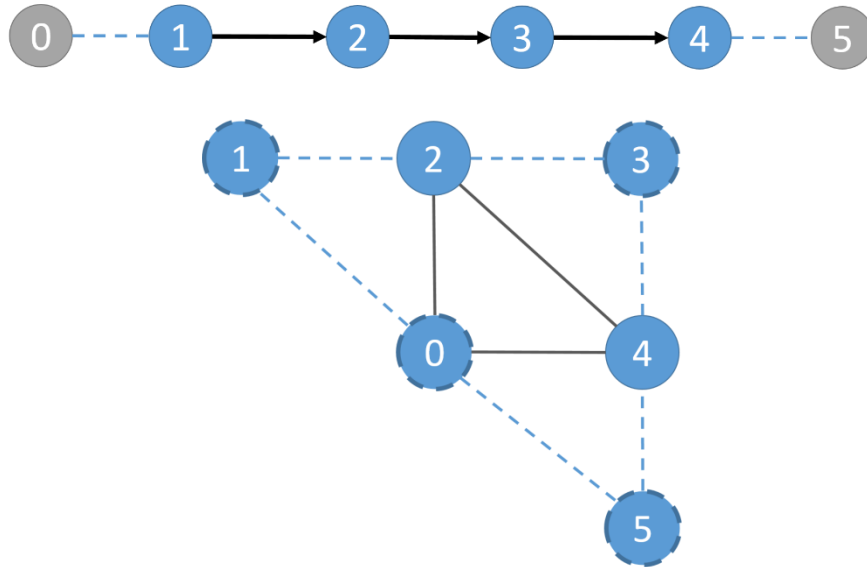


VK_PRIMITIVE_TOPOLOGY_TRIANGLE_STRIP

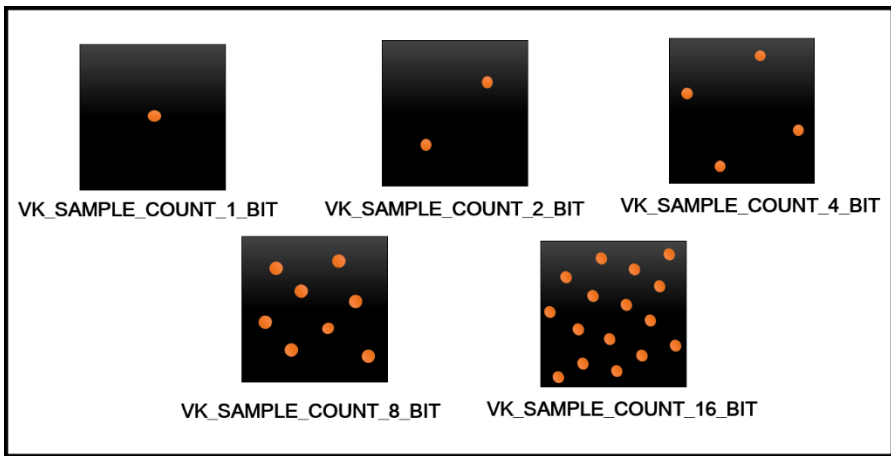
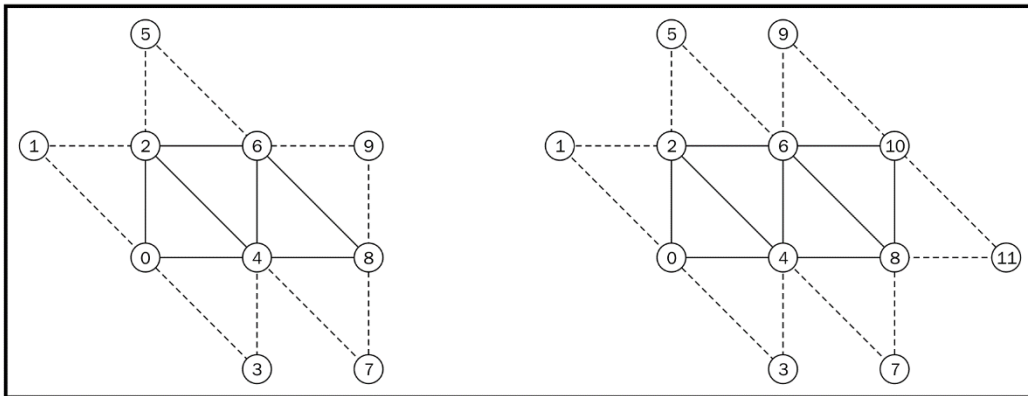
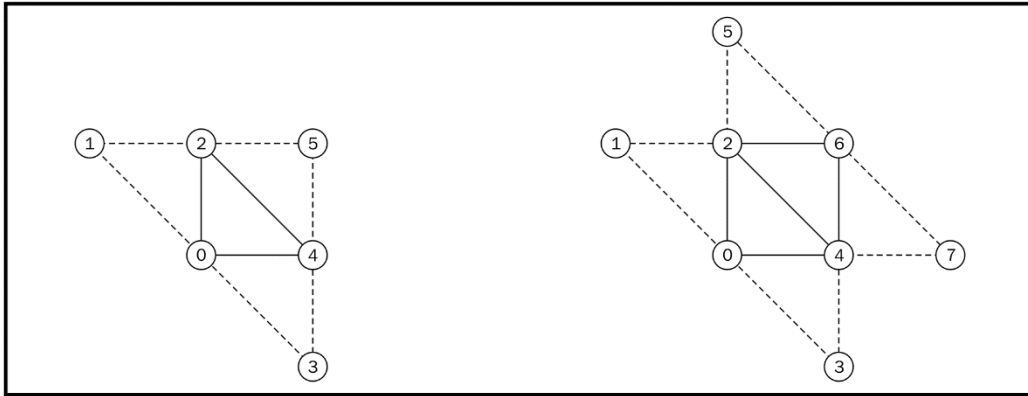


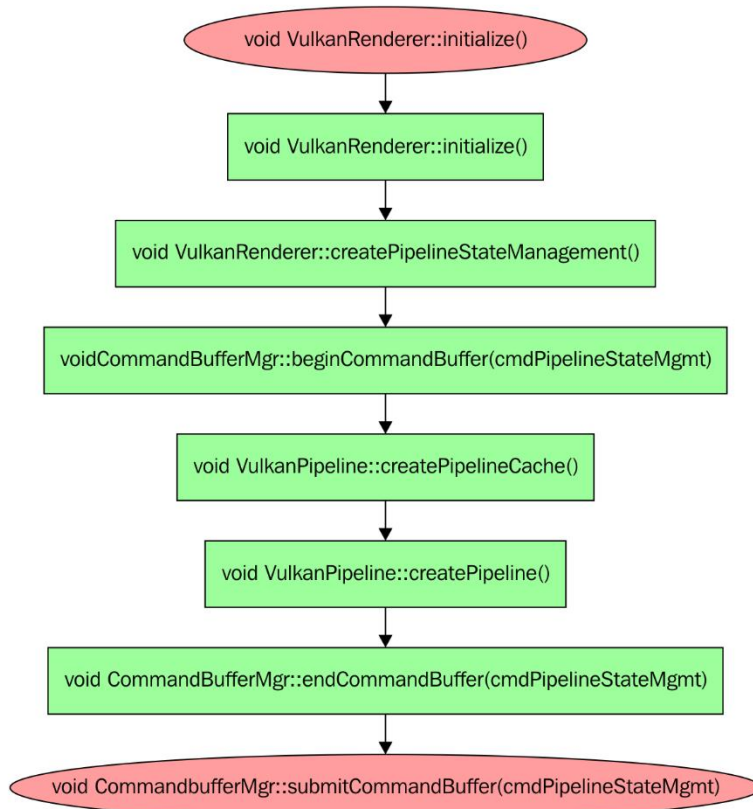
VK_PRIMITIVE_TOPOLOGY_TRIANGLE_FAN



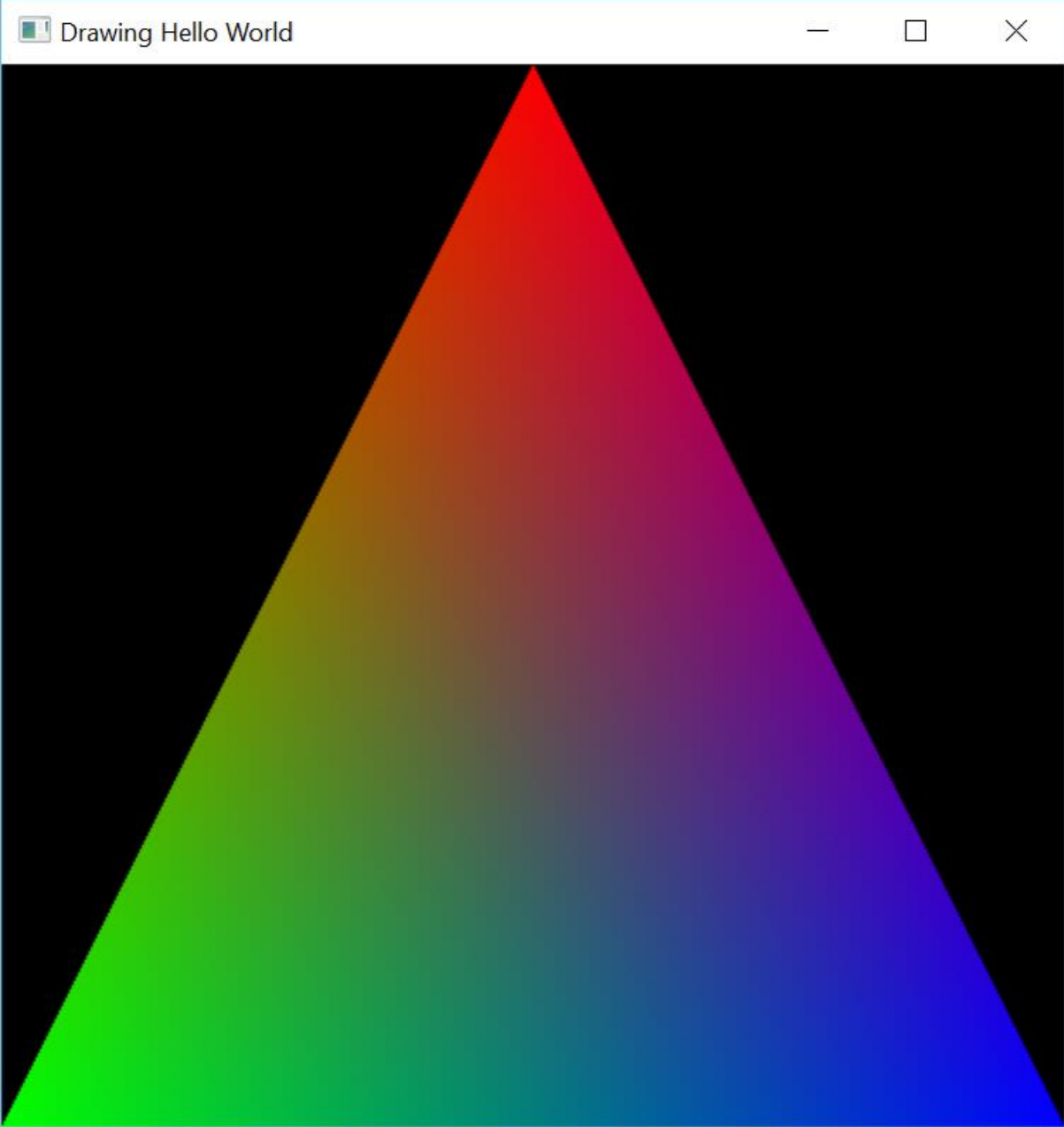


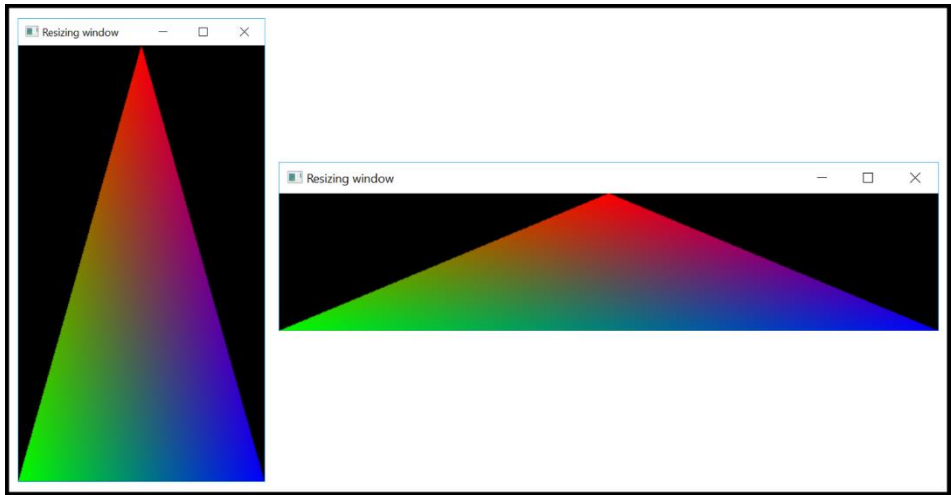
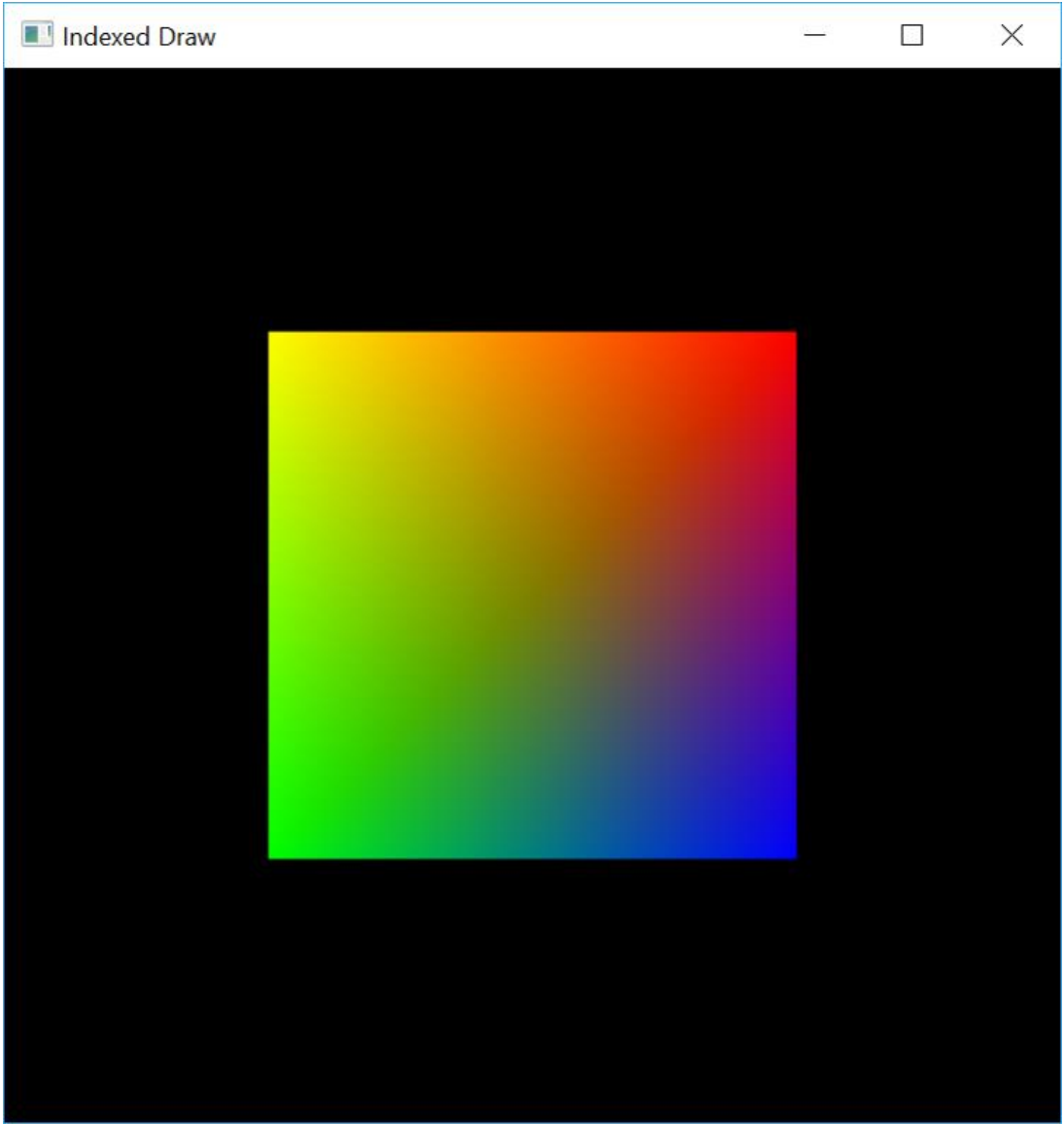
Primitive Vertices			Adjacent Vertices			
Primitive	1st	2nd	3rd	1/2	2/3	3/2
only (i=0, n=1)	0	2	4	1	5	3
first (i=0)	0	2	4	1	6	3
middle (i odd)	$2i+2$	$2i$	$2i+4$	$2i-2$	$2i+3$	$2i+6$
middle (i even)	$2i$	$2i+2$	$2i+4$	$2i-2$	$2i+6$	$2i+3$
last (i=n-1, i odd)	$2i+2$	$2i$	$2i+4$	$2i-2$	$2i+3$	$2i+5$
last (i=n-1, i even)	$2i$	$2i+2$	$2i+4$	$2i-2$	$2i+5$	$2i+3$



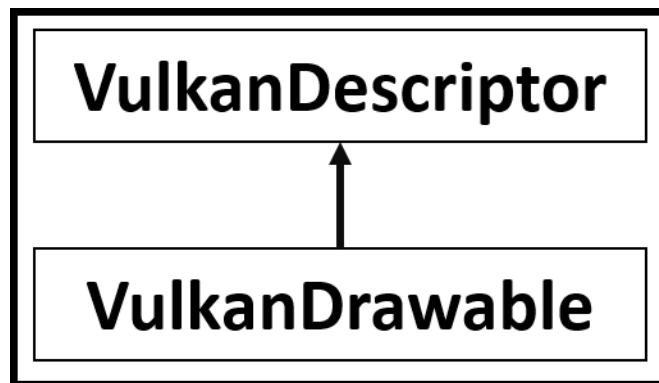
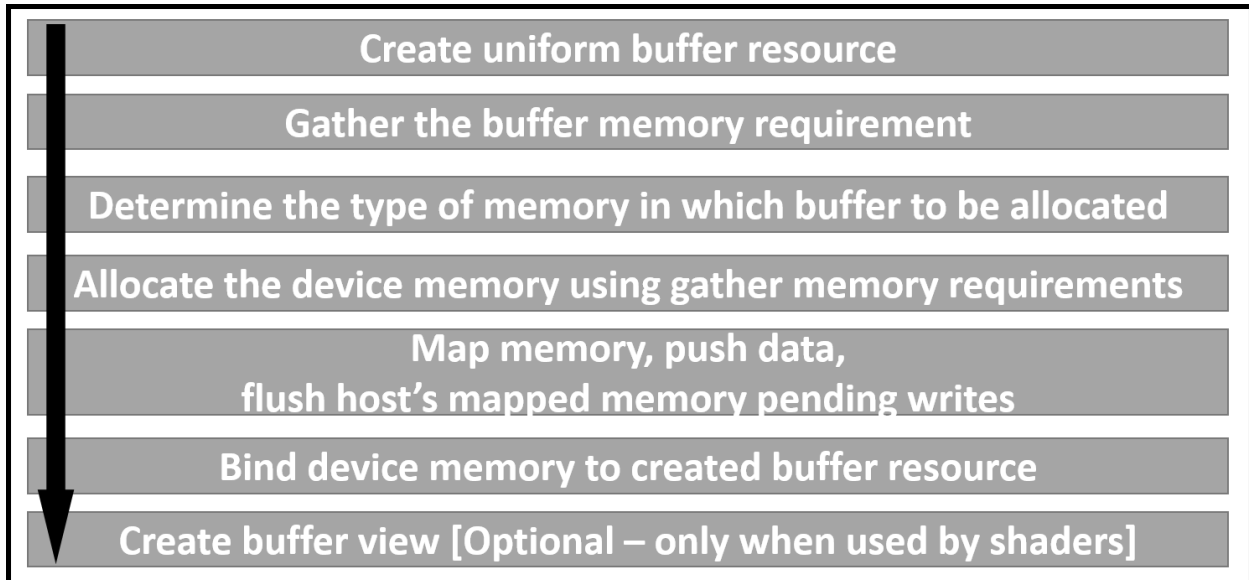


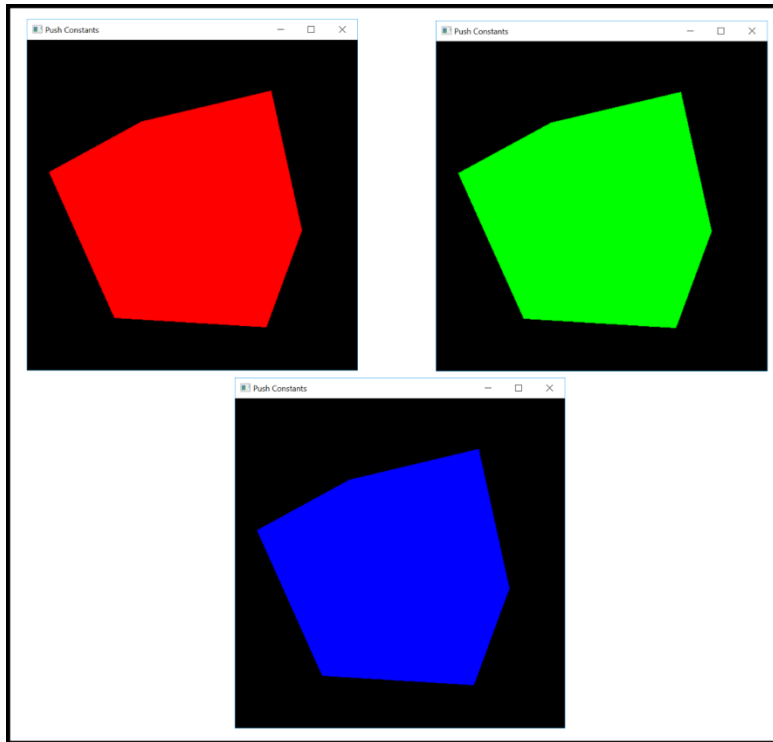
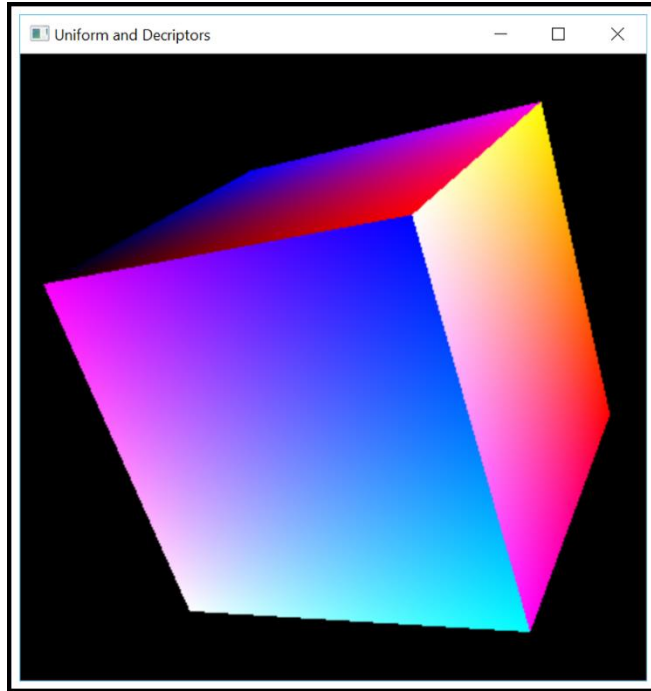
Chapter 9: Drawing Objects

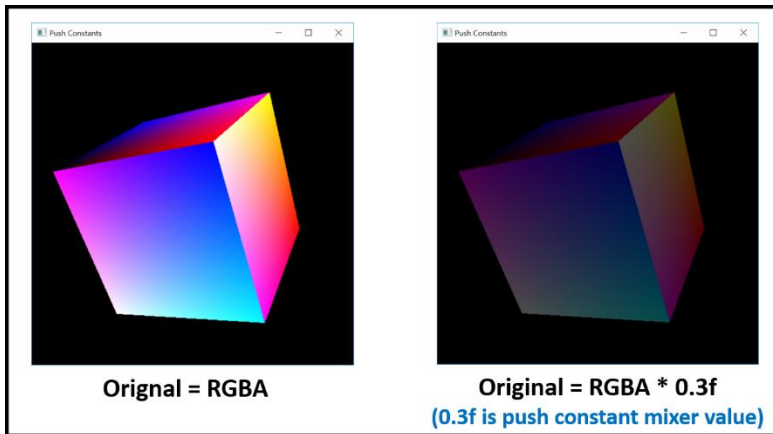




Chapter 10: Descriptors and Push Constant







Chapter 11: Drawing Textures

