DAY 83 - 100 DAYS VERIFICATION CHALLENGE

Topic: UVM Phases

DAY 83 CHALLENGE:

- 1. Which are the three main types of UVM phases & the explain each phase they have in detail with syntax:
 - i. Build Phases
 - Build
 - Connect
 - · end of elaboration
 - ii. Run-time Phases
 - · start of simulation
 - run

Parallel Run-Time Phases

- · pre reset, reset, post reset
- · pre configure, configure, post configure
- pre_main, main, post_main
- · pre shut down, shut down, post shut down
- iii. Clean-up phases (extract, check, report, final)
- 2. Which UVM phases refers to the function and which phases are a task?
- 3. How can you start a UVM phase?
- 4. Can we have a user-defined phase in UVM?

DAY: 83

Topic : Uum Prieses

sind which are the three main types of num phases and the explain each phase they have in cletail with syntax: . Build phases:

> Build Doe recet Connect reset end of elaboration DOST_TESET

@ Run-time phases:

(3)

pre- configuro Configure Stant of Simulation post cofigure RUN main

cleanup phases:

postman pre shuldown extract 9hu tolown Check post shut down sepost

· un. Component class also defines a set of phases that are used to monage the initialization and shutdown of the Component. The following are the different phase of a num Component,

along with a explanation of earl: 1 Build-phase: its used to coente testherch component.

· build phase is the first phase of component and its used to Coeste and initialize all of Sub-Components of the Component.

This includes coenting any necessary interfaces, sequencers. abilions or monitors & configuring them with the appropriate Settings.

@ Connect_phose :

· Connect-phose is used to establish Connection Between the Sub Components of the Component.

This includes connecting interfaces to doluens, sequences to monitor and so on. The connect phase called after the build-phase.

3 encl-of elaboration phose:

The end of elaboration phase is called after all of the Components in the testbench have been created and connected the used to perform any final sotup or configuration of the Component.

Syntax :-

function void end of elaboration phase (cum phase phase);

: Component using end of elaboration phase : kest

1 Stant of Simulation phase:

Simulation, after all of the Components have been initialized and Configured.

before the simulation begins. Such as setting up design hierarches, setting initial values and preparing for the actual

: Component using start of simulation phose : test.

5 run_phose:

. The run-phase is the main phase of the component and is used to perform the actual testing.

The DUT and collecting coverage and other data.

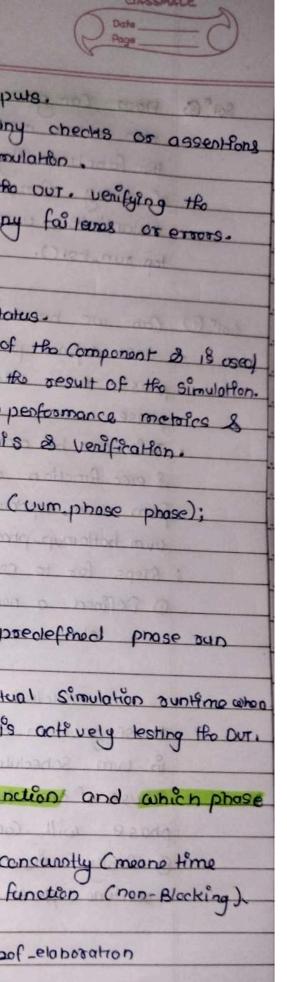
· Run phose moons (start component functionality) and component using our phase : test, daiven, monitor, std.

Extract phase: extract phase use collect the outputs.

The extract phase is used to extract data from the simulator for analysis and reporting.

. This includes collecting average date, generating waveforms dumping other data that is needed for debugging is

analysis ... Component using extract phase is lest.



iii) final phase

6 check-phase: its used to compare outputs. . The check phase is used to perform any checks or assenting on the data collected during the simulation. . In s includes checking for comors in the our verifying the correctness of the TB and reporting any for laws or errors. : Component using check phase is pst. @ Report phase: It is used to report status. . The report phase is the final phase of the compenent & 18 0500) to generate deposts and ourmanize the result of the simulation. . This includes generating Coverage reports , performance motoics & other data that is needed for analysis & verification. function void report phase (uum phase phase); endfunction @ Run. phase: os s cheauted phases! · whenever our phase is called a set of predefined prase our Concurrently. . Trese phases are executed dusing actual simulation suntino who the verification envicoment functionality is actively testing the Dur. sold which urm phase refers to the function and which phase are a task? only sun-phase is a task that our concurrity (means time consuming phase) & other phase are function (non-Blocking) © Build-phase → function in connect-phase is endoof-eloposation is stant-of-simulation-phase. @ flun_phose - +ask

1 cleanphase - function

i.> check_phase ii> report_phase



soin & How Can you start a cum phose? · sun-testi) method in top module using then stants the functions usy of all the Components by our phase of every Compenent automotically. · instantiate uum root as top, allocates momory, then ralles top. oun_test(). Soin @ Can we have a usen-defined phase in unn ? . User definal phase in our can be inserted within the Run phase and allows us' to choose and use our own defined . This can be done with the use of callbacks like exectask & erec-function as all the phases can be extended either from cum_topdown_phose. uum_bottomup-phose & uum_tosk-phose: : Steps for to croote a user defined phase: 10 Defined a new user defined phase class usen phase extends uum task phase uum top down phase cum bottomup phas: endclass @ use get uum_schedula function to add the now user phase in uum Schedule. @ use of erectosk or erectanction depending on whether the phase will consume simulation time or not. @ finally insent the user phase within the preferred runtimo phase.