Theorey:

Dividing a Computation into smaller

Computations and assigning them to differ

Processors for parallel execution are the

two key steps in the design of parallel

algorithm.

The process of dividing a Computer smaller ports, some or all of which may potentially be executed in parallel is Called de Composition tasks are Programme defined units of Computation into which the main Computation is subdivided by means of decomposition simultaneous execution of multiple tasks is the key to reducing the time required to solve entire problem tasks can be of crebitary size, but once defined, they are regarded as indivisible units of computation. The tasks into which a problem is de composed may not all be of the same size.

* Important functions & Concepts.

O Cuda Mayor:

memory on CPU but to operate on gpu whole data must be global memory.

2) Cudamem cpy:-It Copies Source to distination that host to device for operation.

- 3 Cudafree (arr): Free, the rejource allocated
- minimum << 1. element /2>> (our)

 first argument is to tank space bloug of
 thread and second is no of threads in
 block.
- 5 -- global --Indicates that function fun on device Called from host Code
- 6 tid = thread Idx. X

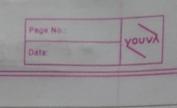
 It Consist of thread index within a
 block.
- ano. of thread 2 blockdim. x It Contains dimension of block.

Algorithm 1 step:

- O Define the no. of elements i.e.n.
- @ Define size for array and allocate memory.
- 3) Insert Eandom elements in an orray.
- @ Copy source to destination that host to device for operation.
- 6 Find minimum element in orray by Comparing elements in one thread
- 6 Again Copy result from device to host for preinting result
- Decreasing order and returning 1st
- 8) find sum of array element store, it in

1
Konny

A CO	first element of array. G) Find ava of array by Sumin (D) Convert int array to float and Colowar. Mean for variance and print it. Mean for variance and print it. (D) Square root of variance is then (a) Calculated and printed as standard deviation. (2) free the alloCated resource.				
	Test Case:				
52. No	operation	Expected	Actual	Result.	
1.	min of array	0	0	Pass.	
٧,	Max element	9	94300	pass.	
3,	TEMPORTS 1.6.M	4643	4643	Pass,	
4.	Avg. of element	4-53	4-53	Pass,	
5,	Standard deviation	2.89	2.89	Pass.	
6,	Nationce	8.48	8,48	Pass,	
Ai CL	Considered no		Nº/210%		



Conclusion:

De Composed Problem to

Sub Problems to handle large data

using SPU and performed minimax,

sum, avg, Standard deviation and

Variance on array elements.