A) PART I

I added a conveyance criteria to sommore overlapped ?. I moreosed the maximum number of iterations to SOD, and charged the convoyance tolorance to le-2. The file Part-1-schworz-overlapped contains the code. Here are the number of iterations vs n:

Λ	# of ite	ナック
4	3	-
S	3	
	3	
16	3	
32		

2) In schwarz-gc.edp, I chayed the LinearCG tolerage to 10-6 ord max number of iterations to 500. Here are the results

when I changed the tolerace to 1e-2, I observed that the same solution as in schwarz-overlaped is obtained. Here are the ownber of iteration vs n:

, a	#	of itera	2000
 -	-	3	1 2 2
4		3	
8		3	
16		3	
32			

which are the same as in schwarz-overlap. edp

B) PART I

In the overlapping ease, I charged the convergence tolorine to 10-2 as the maximum number of iterations to soo.

In the non-overlapping cose, I changed the LincorCG tolurase to le-6 and may number of Heretions to 500.

Here are the results:

1) The Dunkpping case

1) Problem 1

- @ The file Part-2-schwarz-overlap-mfe-allerp ontains the code.
- (B) These are the next to for the number of steephon's vs h

1	# of itectors
<u>n</u>	500
1/10	500
1/25	500
1/40 1/80	5
(R)	

1 The results show that the accuracy is acquired for h=1/80 in 5 Hertons

li) Problem 2

- @ The file Pert-2-schwerz-orenless-mfe-Q2.edp contains the ode
- & Here one the results:

h	# of Hertion
	500
1/2	500
1/20	C 0 2
1/40	4
1/80	Τ

@ In this case, the desired accuracy is acquired for h=1/80 in 4 Hercamu.

III) Poster 3

@ The file Part-2-schwark-overlap-mfe-Q3.edp contains the code

@ These are the results:

h	#	of	itered son
1/12		1	
		}	
1/20		4	
1/40		1	
1/80			

@ In all cases, the desire accuracy is acquired in the first storetion,

Iv) Problem 4

1 The file Part 2 - schwarz - ovarlep - mfe - Q4. edp contains the oxte

@ Thex are the results:

n ±	ef iterations
	500
No	500
hs	Sog
1/40	
1/80	Soo

The desines accuracy is not obtained in any of the cases

2) The Non-Overlapping case

i) Poston 1

⊕ The file Port-2 - Schwarz-gc-Mfe-Q1.edp contains the order

@ These are the nosty:

h _	# of iterations
1/12	5
10	10
مدا	17
1/42	26
180	

A all coses with small number of iterations

11) Poster 2

€ The file pert-2-schword-gc-mfe-Q2-edp contains the code.

1 Here are the results:

h	# of iteration
	5
1/10	11
1/20	18
1/42	28
1/80	

@ compared to the overlapping algorithm, desired according is obtained in all cases with small number of iterations (we recall that in the fort three values of h, le-2 conversaries tolerace is not acquired in the overlapping algorithm.)

1111) Poster 3

1 The file Port- 2-schwerz-Oc- mfe _Q3.ed; contains the code

1 Here on the rollts

- B For h=1/20 and h=1/40, I necessare the message "GC gn2=0<1e-30

 Nothing to do"
- Buther I compere the solutions from overlepping are non-overlepping ease, they seem to differ along x=0.5. This is released to shape of they seem to differ along negion in the two algorithms.

iv) Problem 4

@ The file Part-2-Schwez-ge-mfe-Q4. edp ontens the orde. How are the results:

<u>h</u>	# of iterations
1/12	5
	10
りつつ	18
142	27
1/80	

We observe that the desire & accuracy is obtained in all the course.

We can recall that the convergence tolerace le-2 is not acquired in any of the cases in the overlapping aborithm. Here, we can note that since K is discontinuous along x=0.5, It is important to take the interface to be along x=0.5 to get conversant results.

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