

# Question 1

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## Part 1

1

- Third code run fastest
- Time difference between second and third code is not that significant

Code Number	Time
1	16.097 s
2	0.031 s
3	0.030 s

2

- Time reduces significantly in comparison to unchanged code
- However it is still very less as compared to code2 and code3

Code	Time
1_changed	0.257 s

## Part 2

1

- schedule(guided) and schedue(dynamic) are taking least time

Scheduling Type	Time
Guided	36.002 s
Static	54.002 s
Dynamic	36.002 s


# Question 2

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- Time Taken by code is as follow

Number of Threads	Time
1 Thread	4.435 s
2 Threads	2.409 s

Number of Threads	Time
4 Threads	1.228 s
6 Threads	0.843 s
24 Threads	0.435 s

- When using 6 threads over 1 thread the speedup is 5.2 times.
- When using 4 threads over 1 thread the speedup is 3.6 times.
- The reason for the time not reducing to (1/4)th is because of overhead. 

## Question 3


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- Time Taken by code is as follow

Number of Threads	Time
1 Thread	7.053 s
2 Threads	3.767 s
4 Threads	1.864 s
6 Threads	1.285 s

- Time Taken by code is as follow

Chunk Size	100	200
Guided Scheduling	1.592 s	1.504 s
Static Scheduling	2.327 s	2.312 s
Dynamic Scheduling	1.562 s	1.608 s

- The Speedup for 6 cores vs 1 core is 5.488
- Using Scheduling as guided and chunk size 100 the time taken is minimum using 6 threads 

## Question 4

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### Part 1

- Starting Balance 0.00
- After deposit balance 10000000.00
- After withdrawl balance 0.00

### Part 2

- Starting Balance 0.00
- After deposit balance 2892800.00
- After withdrawl balance 98550.00

## Part 3

- Starting Balance 0.00
- After deposit balance 0.00
- After withdrawl balance 0.00
- Same result both times

## Part 4

- Starting Balance 0.00
- After deposit balance 10000000.00
- After withdrawl balance 0.00
- Same result both times

## Part 5

- Starting Balance 0.00
- After deposit balance 10000000.00
- After withdrawl balance 0.00

## Observations:

- In part 4 the balance variable is made critical thus the result are accurate.
- In part 5 we are using reduction thats why results are accurate.