

- 4ITA2@debian:~/Debrato\_240911734/Lab4/output\$ date  
Thu Feb 5 15:33:27 IST 2026
- 4ITA2@debian:~/Debrato\_240911734/Lab4/output\$ cd "/home/4ITA2/Debrato\_240911734/Lab4/output"
- 4ITA2@debian:~/Debrato\_240911734/Lab4/output\$ ./q1"  
child process  
child pid: 361675  
parent pid: 361674  
parent process  
parent pid : 361674  
child pid: : 361675

○ 4ITA2@debian:~/Debrato\_240911734/Lab4/output\$ █

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● 4ITA2@debian:~/Debrato_240911734/Lab4/output$ date
Thu Feb  5 15:45:14 IST 2026
● 4ITA2@debian:~/Debrato_240911734/Lab4/output$ cd "/home/4ITA2/Debrato_240911734/Lab4/output"
./"q2"
● 4ITA2@debian:~/Debrato_240911734/Lab4/output$ ./"q2"
Child process: executing Program 1 using exec
child process child pid: 380739
parent pid: 380738
parent process
parent pid : 380738
child pid:  : 380739
Parent process: child execution completed
○ 4ITA2@debian:~/Debrato_240911734/Lab4/output$ █
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● 4ITA2@debian:~/Debrato_240911734/Lab4/output$ date
Thu Feb  5 15:52:15 IST 2026
● 4ITA2@debian:~/Debrato_240911734/Lab4/output$ cd "/home/4ITA2/Debrato_240911734/Lab4/output"
./"q3"
● 4ITA2@debian:~/Debrato_240911734/Lab4/output$ ./"q3"
Parent 382055 process sleeping...
Child process exiting
Parent 382055 exiting
○ 4ITA2@debian:~/Debrato_240911734/Lab4/output$ █
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- 4ITA2@debian:~/Debrato\_240911734/Lab4\$ date  
Thu Feb 5 15:59:03 IST 2026
- 4ITA2@debian:~/Debrato\_240911734/Lab4\$ g++ q4.cpp -pthread -o q4
- 4ITA2@debian:~/Debrato\_240911734/Lab4\$ ./q4 6 9 4 1 7 3 2  
Bubble Sort Time: 0 ms  
Selection Sort Time: 0 ms  
Insertion Sort Time: 0 ms  
1 2 3 4 7 9

- 4ITA2@debian:~/Debrato\_240911734/Lab4\$ date  
Thu Feb 5 16:01:39 IST 2026
- 4ITA2@debian:~/Debrato\_240911734/Lab4\$ g++ q5.cpp -pthread -o q5
- 4ITA2@debian:~/Debrato\_240911734/Lab4\$ ./q5 8  
0 1 1 2 3 5 8 13
- 4ITA2@debian:~/Debrato\_240911734/Lab4\$ █