

Profiling:

1. Creating a directory with 100 files of 1GB each

```
bhanu@mbhanu:~/OOPD_Project$ cd Profiling/
bhanu@mbhanu:~/OOPD_Project/Profiling$ chmod +x Prof1.sh
bhanu@mbhanu:~/OOPD_Project/Profiling$ ./Prof1.sh
Creating directory with 100 files of 1GB each...
1+0 records in
1+0 records out
1073741824 bytes (1.1 GB, 1.0 GiB) copied, 1.93655 s, 554 MB/s
1+0 records in
1+0 records out
1073741824 bytes (1.1 GB, 1.0 GiB) copied, 1.39849 s, 768 MB/s
1+0 records in
1+0 records out
1073741824 bytes (1.1 GB, 1.0 GiB) copied, 1.25532 s, 855 MB/s

1073741824 bytes (1.1 GB, 1.0 GiB) copied, 1.12521 s, 954 MB/s

real    2m2.210s
user    0m0.041s
sys     1m57.144s
bhanu@mbhanu:~/OOPD_Project/Profiling$ ls directory1/
file1.txt  file18.txt  file27.txt  file36.txt  file45.txt  file54.txt  file63.txt  file72.txt  file81.txt  file90.txt
file10.txt  file19.txt  file28.txt  file37.txt  file46.txt  file55.txt  file64.txt  file73.txt  file82.txt  file91.txt
file100.txt  file2.txt  file29.txt  file38.txt  file47.txt  file56.txt  file65.txt  file74.txt  file83.txt  file92.txt
file11.txt  file20.txt  file3.txt  file39.txt  file48.txt  file57.txt  file66.txt  file75.txt  file84.txt  file93.txt
file12.txt  file21.txt  file30.txt  file4.txt  file49.txt  file58.txt  file67.txt  file76.txt  file85.txt  file94.txt
file13.txt  file22.txt  file31.txt  file40.txt  file5.txt  file59.txt  file68.txt  file77.txt  file86.txt  file95.txt
file14.txt  file23.txt  file32.txt  file41.txt  file50.txt  file6.txt  file69.txt  file78.txt  file87.txt  file96.txt
file15.txt  file24.txt  file33.txt  file42.txt  file51.txt  file60.txt  file7.txt  file79.txt  file88.txt  file97.txt
file16.txt  file25.txt  file34.txt  file43.txt  file52.txt  file61.txt  file70.txt  file8.txt  file89.txt  file98.txt
file17.txt  file26.txt  file35.txt  file44.txt  file53.txt  file62.txt  file71.txt  file80.txt  file9.txt  file99.txt
bhanu@mbhanu:~/OOPD_Project/Profiling$ |
```

We can see that all 100 files of 1 GB each were created here.

2. Creating a directory with 1000 files of 10MB each

```
bhanu@mbhanu:~/OOPD_Project/Profiling$ chmod +x Prof2.sh
bhanu@mbhanu:~/OOPD_Project/Profiling$ ./Prof2.sh
Creating directory with 1000 files of 10MB each...
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.0109023 s, 962 MB/s
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.00813641 s, 1.3 GB/s
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.0109932 s, 954 MB/s
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.00993637 s, 1.1 GB/s
```

```

real 0m13.704u
user 0m0.307s
sys 0m0.181s

#-----0000_Propag/Prof/Flings to directory/-----
file1.t file103.t file189.t file2233.t file2799.t file3233.t file3699.t file4011.t file4599.t file5033.t file5499.t file5899.t file6299.t file6699.t file7079.t file7779.t file8199.t file8604.t file8999.t file9504.t
file10.t file104.t file1610.t file2434.t file2877.t file3429.t file3737.t file4101.t file4684.t file5084.t file5559.t file5999.t file6399.t file6859.t file7279.t file7779.t file8279.t file8659.t file9199.t file9595.t
file1000.t file106.t file1200.t file1333.t file1599.t file1836.t file2181.t file2526.t file3271.t file3699.t file4061.t file4686.t file5086.t file5551.t file5997.t file6401.t file6857.t file7279.t file7779.t file8279.t file8657.t file9199.t file9595.t
file101.t file107.t file192.t file2377.t file2877.t file3277.t file3737.t file4107.t file4682.t file5087.t file5552.t file5998.t file6402.t file6858.t file7273.t file7777.t file8272.t file8658.t file9192.t file9598.t
file102.t file108.t file194.t file2394.t file2879.t file3279.t file3739.t file4109.t file4687.t file5094.t file5557.t file5999.t file6404.t file6861.t file7276.t file7780.t file8277.t file8662.t file9197.t file9599.t
file103.t file109.t file196.t file2339.t file2884.t file3239.t file3744.t file4110.t file4690.t file5095.t file5561.t file5999.t file6404.t file6861.t file7276.t file7780.t file8274.t file8667.t file9194.t file9596.t
file104.t file15.t file195.t file204.t file2855.t file3337.t file3759.t file427.t file4645.t file5031.t file5481.t file5855.t file6291.t file6695.t file7139.t file7591.t file8025.t file8470.t file8915.t file9360.t
file105.t file106.t file106.t file1260.t file1336.t file1366.t file1376.t file1401.t file1436.t file1480.t file1509.t file1529.t file1559.t file1589.t file1619.t file1646.t file1671.t file1699.t file1729.t
file107.t file108.t file152.t file198.t file202.t file2888.t file3332.t file3778.t file4272.t file4608.t file5032.t file5488.t file5858.t file6291.t file6695.t file7139.t file7591.t file8026.t file8470.t file8918.t file9363.t
file108.t file105.t file109.t file203.t file2405.t file2889.t file3333.t file3779.t file4281.t file4609.t file5033.t file5489.t file5859.t file6293.t file6697.t file7140.t file7594.t file8029.t file8476.t
file109.t file107.t file109.t file204.t file2406.t file2890.t file3334.t file3780.t file4282.t file4610.t file5034.t file5490.t file5860.t file6294.t file6698.t file7141.t file7595.t file8030.t file8477.t
file11.t file115.t file120.t file205.t file2407.t file2891.t file3335.t file3800.t file4283.t file4610.t file5035.t file5491.t file5861.t file6295.t file6699.t file7142.t file7596.t file8031.t file8478.t
file110.t file106.t file206.t file201.t file2436.t file3131.t file3426.t file3697.t file4026.t file4371.t file4626.t file4861.t file5197.t file5452.t file5697.t file5941.t file6287.t file6583.t
file111.t file107.t file207.t file202.t file2437.t file3132.t file3427.t file3698.t file4027.t file4372.t file4627.t file4862.t file5198.t file5453.t file5699.t file5942.t file6288.t file6584.t
file112.t file115.t file202.t file288.t file3293.t file3538.t file3833.t file4028.t file4373.t file4628.t file4863.t file5199.t file5454.t file5699.t file5943.t file6289.t file6585.t
file113.t file109.t file203.t file289.t file3294.t file3539.t file3834.t file4029.t file4374.t file4629.t file4864.t file5199.t file5454.t file5699.t file5943.t file6290.t file6586.t
file114.t file108.t file204.t file290.t file3295.t file3540.t file3835.t file4030.t file4375.t file4630.t file4865.t file5199.t file5455.t file5699.t file5944.t file6291.t file6587.t
file115.t file105.t file205.t file291.t file3296.t file3541.t file3836.t file4031.t file4376.t file4631.t file4866.t file5199.t file5456.t file5699.t file5945.t file6292.t file6588.t
file116.t file101.t file206.t file292.t file3297.t file3542.t file3837.t file4032.t file4377.t file4632.t file4867.t file5199.t file5457.t file5699.t file5946.t file6293.t file6589.t
file117.t file108.t file208.t file293.t file3298.t file3543.t file3838.t file4033.t file4378.t file4633.t file4868.t file5199.t file5458.t file5699.t file5947.t file6294.t file6590.t
file119.t file104.t file209.t file294.t file3299.t file3544.t file3839.t file4034.t file4379.t file4634.t file4869.t file5199.t file5459.t file5699.t file5948.t file6295.t file6591.t
file120.t file106.t file210.t file295.t file3300.t file3545.t file3840.t file4035.t file4380.t file4635.t file4870.t file5199.t file5460.t file5699.t file5949.t file6296.t file6592.t
file121.t file107.t file211.t file297.t file3301.t file3546.t file3841.t file4036.t file4381.t file4636.t file4871.t file5199.t file5461.t file5699.t file5950.t file6297.t file6593.t
file122.t file103.t file212.t file298.t file3302.t file3547.t file3842.t file4037.t file4382.t file4637.t file4872.t file5199.t file5462.t file5699.t file5951.t file6298.t file6594.t
file123.t file109.t file213.t file299.t file3303.t file3548.t file3843.t file4038.t file4383.t file4638.t file4873.t file5199.t file5463.t file5699.t file5952.t file6299.t file6595.t
file124.t file120.t file214.t file300.t file3304.t file3549.t file3844.t file4039.t file4384.t file4639.t file4874.t file5199.t file5464.t file5699.t file5953.t file6300.t file6596.t
file125.t file121.t file215.t file301.t file3305.t file3845.t file4040.t file4385.t file4640.t file4875.t file5199.t file5465.t file5699.t file5954.t file6301.t file6597.t
file126.t file122.t file216.t file302.t file3306.t file3846.t file4041.t file4386.t file4641.t file4876.t file5199.t file5466.t file5699.t file5955.t file6302.t file6598.t
file127.t file123.t file217.t file303.t file3307.t file3847.t file4042.t file4387.t file4642.t file4877.t file5199.t file5467.t file5699.t file5956.t file6303.t file6599.t
file128.t file124.t file218.t file304.t file3308.t file3848.t file4043.t file4388.t file4643.t file4878.t file5199.t file5468.t file5699.t file5957.t file6304.t file6600.t
file129.t file125.t file219.t file305.t file3309.t file3849.t file4044.t file4389.t file4644.t file4879.t file5199.t file5469.t file5699.t file5958.t file6305.t file6601.t
file130.t file126.t file220.t file306.t file3310.t file3850.t file4045.t file4390.t file4645.t file4880.t file5199.t file5470.t file5699.t file5959.t file6306.t file6602.t
file131.t file127.t file221.t file307.t file3311.t file3851.t file4046.t file4391.t file4646.t file4881.t file5199.t file5471.t file5699.t file5960.t file6307.t file6603.t
file132.t file128.t file222.t file308.t file3312.t file3852.t file4047.t file4392.t file4647.t file4882.t file5199.t file5472.t file5699.t file5961.t file6308.t file6604.t
file133.t file129.t file223.t file309.t file3313.t file3853.t file4048.t file4393.t file4648.t file4883.t file5199.t file5473.t file5699.t file5962.t file6309.t file6605.t
file134.t file130.t file224.t file310.t file3314.t file3854.t file4049.t file4394.t file4649.t file4884.t file5199.t file5474.t file5699.t file5963.t file6310.t file6606.t
file135.t file131.t file225.t file311.t file3315.t file3855.t file4050.t file4395.t file4650.t file4885.t file5199.t file5475.t file5699.t file5964.t file6311.t file6607.t
file136.t file132.t file226.t file312.t file3316.t file3856.t file4051.t file4396.t file4651.t file4886.t file5199.t file5476.t file5699.t file5965.t file6312.t file6608.t
file137.t file133.t file227.t file313.t file3317.t file3857.t file4052.t file4397.t file4652.t file4887.t file5199.t file5477.t file5699.t file5966.t file6313.t file6609.t
file138.t file134.t file228.t file314.t file3318.t
```

We can see that all 1000 files of 10MB each were created here.

3. Creating a directory with 100 files of 10MB each and subdirectories recursively

```
bhanu@mbhanu:~/OOPD_Project/Profiling$ chmod +x Prof3.sh
bhanu@mbhanu:~/OOPD_Project/Profiling$ ./Prof3.sh
Creating directory with 100 files of 10MB each and subdirectories recursively...
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.0204273 s, 513 MB/s
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.0134282 s, 781 MB/s
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.0109633 s, 956 MB/s
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.0134002 s, 783 MB/s
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.0107099 s, 979 MB/s
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.0136853 s, 766 MB/s

10485760 bytes (10 MB, 10 MiB) copied, 0.0101037 s, 1.0 GB/s
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.0113996 s, 920 MB/s
1+0 records in
1+0 records out
10485760 bytes (10 MB, 10 MiB) copied, 0.0117646 s, 891 MB/s

real    0m8.587s
user    0m0.254s
sys     0m6.287s
bhanu@mbhanu:~/OOPD_Project/Profiling$ ls directory3/
file1.txt  file18.txt  file27.txt  file36.txt  file45.txt  file54.txt  file63.txt  file72.txt  file81.txt  file90.txt  subdirl  subdirl9  subdirl28  subdirl37  subdirl46
file10.txt file19.txt  file28.txt  file37.txt  file46.txt  file55.txt  file64.txt  file73.txt  file82.txt  file91.txt  subdirl10 subdirl2  subdirl29  subdirl38  subdirl47
file100.txt file2.txt   file29.txt  file38.txt  file47.txt  file56.txt  file65.txt  file74.txt  file83.txt  file92.txt  subdirl11 subdirl0  subdirl3  subdirl39  subdirl48
file11.txt  file20.txt  file3.txt   file39.txt  file48.txt  file57.txt  file66.txt  file75.txt  file84.txt  file93.txt  subdirl12 subdirl21 subdirl30 subdirl4  subdirl49
file12.txt  file21.txt  file30.txt  file4.txt   file49.txt  file58.txt  file67.txt  file76.txt  file85.txt  file94.txt  subdirl13 subdirl22 subdirl31 subdirl40 subdirl5
file13.txt  file22.txt  file31.txt  file40.txt  file5.txt   file59.txt  file68.txt  file77.txt  file86.txt  file95.txt  subdirl14 subdirl23 subdirl32 subdirl41 subdirl50
file14.txt  file23.txt  file32.txt  file41.txt  file50.txt  file6.txt   file69.txt  file78.txt  file87.txt  file96.txt  subdirl15 subdirl24 subdirl33 subdirl42 subdirl6
file15.txt  file24.txt  file33.txt  file42.txt  file51.txt  file60.txt  file7.txt   file79.txt  file88.txt  file97.txt  subdirl16 subdirl25 subdirl34 subdirl43 subdirl7
file16.txt  file25.txt  file34.txt  file43.txt  file52.txt  file61.txt  file70.txt  file8.txt   file89.txt  file98.txt  subdirl17 subdirl26 subdirl35 subdirl44 subdirl8
file17.txt  file26.txt  file35.txt  file44.txt  file53.txt  file62.txt  file71.txt  file80.txt  file9.txt   file99.txt  subdirl18 subdirl27 subdirl36 subdirl45 subdirl9
bhanu@mbhanu:~/OOPD_Project/Profiling$ ls directory3/subdirl
file1.txt file10.txt file2.txt file3.txt file4.txt file5.txt file6.txt file7.txt file8.txt file9.txt
bhanu@mbhanu:~/OOPD_Project/Profiling$ |
```

We can see that 100 files of 10 MB each were created, along with 50 sub-directories containing 10 files each.