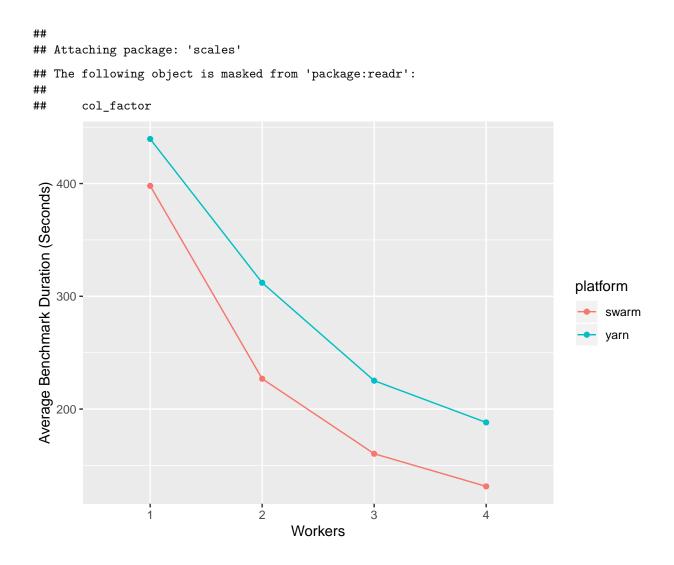
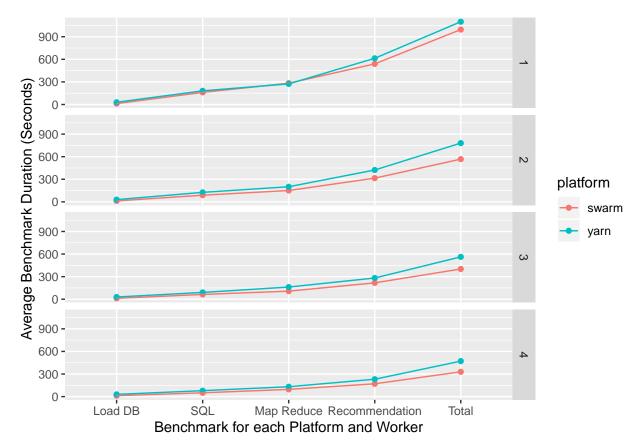
Movielens-Benchmark





##		benchmark	workers	platform	seconds
##	1:	Load DB	4	swarm	12.25567
##	2:	Map Reduce	4	swarm	95.70716
##	3:	SQL	4	swarm	50.21393
##	4:	${\tt Recommendation}$	4	swarm	169.93276
##	5:	Total	4	swarm	329.11979
##	6:	Load DB	3	swarm	12.20022
##	7:	Map Reduce	3	swarm	107.04547
##	8:	SQL	3	swarm	63.62954
##	9:	${\tt Recommendation}$	3	swarm	217.54641
##	10:	Total	3	swarm	401.48919
##	11:	Load DB	2	swarm	12.69490
##	12:	Map Reduce	2	swarm	150.82358
##	13:	SQL	2	swarm	88.39606
##	14:	${\tt Recommendation}$	2	swarm	314.96520
##	15:	Total	2	swarm	567.55656
##	16:	Load DB	1	swarm	11.82159
##	17:	Map Reduce	1	swarm	282.68797
##	18:	SQL	1	swarm	160.68488
##	19:	${\tt Recommendation}$	1	swarm	539.52198
##	20:	Total	1	swarm	995.17755
##	21:	Load DB	4	yarn	29.50626
##	22:	Map Reduce	4	yarn	131.13515
##	23:	SQL	4	yarn	78.54926
##	24:	${\tt Recommendation}$	4	yarn	230.63663
##	25:	Total	4	yarn	470.92755
##	26:	Load DB	3	yarn	29.50049

```
Map Reduce
## 27:
                            yarn 161.52952
## 28:
                SQL
                         3
                                    90.25676
                              yarn
## 29: Recommendation
                         3
                               yarn 281.91491
                               yarn 562.63788
## 30:
        Total
                         3
## 31:
            Load DB
                         2
                                    29.61790
                               yarn
## 32:
                               yarn 200.68003
         Map Reduce
                         2
## 33:
                         2
                               yarn 126.12383
                SQL
## 34: Recommendation
                        2
                               yarn 423.20715
                               yarn 780.52208
                        2
## 35:
        Total
            Load DB
## 36:
                        1
                               yarn
                                    29.71973
## 37:
        Map Reduce
                         1
                               yarn 273.65743
## 38:
                SQL
                               yarn 181.36671
                          1
## 39: Recommendation
                          1
                               yarn 613.63998
## 40:
                               yarn 1099.30066
                         1
             Total
##
          benchmark workers platform
                                      seconds
```