

Artsiom Skarakhod

Lab 2

Output Unix Emulator:

```
angry@XPS13 /home/oshw2
$ ./hi input10 0
*****
***** First Come First Server *****
*****
pID      arrival BurstT  Priot   finishT waitT   turnAT  respT   NoOfContext
1         0         10       37      |10.0    0.0     10.0    0.0      0
2         1         3        0       |13.0    9.0     12.0    9.0      0
3         2         8       51      |21.0   11.0     19.0   11.0      0
4         4         4       84      |25.0   17.0     21.0   17.0      0
5         5         5       44      |30.0   20.0     25.0   20.0      0
6         6         7       28      |37.0   24.0     31.0   24.0      0
7         9         2       97      |39.0   28.0     30.0   28.0      0
8        10         6       70      |45.0   29.0     35.0   29.0      0
9        13         1       15      |46.0   32.0     33.0   32.0      0
10       15         9        7      |55.0   31.0     40.0   31.0      0
Average CPU Burst Time = 5.5ms   Average TurnAround Time = 25.6ms
Average Waiting Time = 20.1ms   Average Response Time = 20.1ms
Number of Context Switches = 0
```

```
angry@XPS13 /home/oshw2
$ ./hi input10 1
*****
***** Shortest Process First *****
*****
pID      arrival BurstT  Priot   finishT waitT   turnAT  respT   NoOfContext
1         0         10       37      |10.0    0.0     10.0    0.0      0
2         1         3        0       |15.0   11.0     14.0   11.0      0
3         2         8       51      |46.0   36.0     44.0   36.0      0
4         4         4       84      |20.0   12.0     16.0   12.0      0
5         5         5       44      |25.0   15.0     20.0   15.0      0
6         6         7       28      |38.0   25.0     32.0   25.0      0
7         9         2       97      |12.0    1.0      3.0     1.0      0
8        10         6       70      |31.0   15.0     21.0   15.0      0
9        13         1       15      |16.0    2.0      3.0     2.0      0
10       15         9        7      |55.0   31.0     40.0   31.0      0
Average CPU Burst Time = 5.5ms   Average TurnAround Time = 20.3ms
Average Waiting Time = 14.8ms   Average Response Time = 14.8ms
Number of Context Switches = 0
```

angry@XPS13 /home/oshw2

\$ ./hi input10 2

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\*\*\*\*\* Highest Priority First \*\*\*\*\*

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pID	arrival	BurstT	PrioT	finishT	waitT	turnAT	respT	NoOfContext
1	0	10	37	32.0	22.0	32.0	0.0	3
2	1	3	0	4.5	0.5	3.5	0.5	0
3	2	8	51	45.0	35.0	43.0	35.0	0
4	4	4	84	55.0	47.0	51.0	47.0	0
5	5	5	44	37.0	27.0	32.0	27.0	0
6	6	7	28	15.5	2.5	9.5	1.0	1
7	9	2	97	57.0	46.0	48.0	46.0	0
8	10	6	70	51.0	35.0	41.0	35.0	0
9	13	1	15	14.5	0.5	1.5	0.5	0
10	15	9	7	25.0	1.0	10.0	1.0	0

Average CPU Burst Time = 5.5ms      Average TurnAround Time = 27.15ms

Average Waiting Time = 21.65ms      Average Response Time = 19.3ms

Number of Context Switches = 4

angry@XPS13 /home/oshw2

\$ ./hi input10 3 4

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\*\*\*\*\* Round Robin \*\*\*\*\*

\*\*\*\*\* Time Quantum:4 \*\*\*\*\*

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pID	arrival	BurstT	PrioT	finishT	waitT	turnAT	respT	NoOfContext
1	0	10	37	47.5	37.5	47.5	0.0	2
2	1	3	0	7.5	3.5	6.5	3.5	0
3	2	8	51	40.0	30.0	38.0	5.5	1
4	4	4	84	16.0	8.0	12.0	8.0	0
5	5	5	44	48.5	38.5	43.5	15.5	1
6	6	7	28	51.5	38.5	45.5	19.0	1
7	9	2	97	31.5	20.5	22.5	20.5	0
8	10	6	70	53.5	37.5	43.5	21.5	1
9	13	1	15	41.0	27.0	28.0	27.0	0
10	15	9	7	59.0	35.0	44.0	26.0	2

Average CPU Burst Time = 5.5ms      Average TurnAround Time = 33.1ms

Average Waiting Time = 27.6ms      Average Response Time = 14.65ms

Number of Context Switches = 8

angry@XPS13 /home/oshw2

\$ ./hi input10 3 16

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\*\*\*\*\* Round Robin \*\*\*\*\*

\*\*\*\*\* Time Quantum:16 \*\*\*\*\*

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pID	arrival	BurstT	PrioT	finishT	waitT	turnAT	respT	NoOfContext
1	0	10	37	10.0	0.0	10.0	0.0	0
2	1	3	0	13.0	9.0	12.0	9.0	0
3	2	8	51	21.0	11.0	19.0	11.0	0
4	4	4	84	25.0	17.0	21.0	17.0	0
5	5	5	44	30.0	20.0	25.0	20.0	0
6	6	7	28	37.0	24.0	31.0	24.0	0
7	9	2	97	39.0	28.0	30.0	28.0	0
8	10	6	70	45.0	29.0	35.0	29.0	0
9	13	1	15	46.0	32.0	33.0	32.0	0
10	15	9	7	55.0	31.0	40.0	31.0	0

Average CPU Burst Time = 5.5ms      Average TurnAround Time = 25.6ms

Average Waiting Time = 20.1ms      Average Response Time = 20.1ms

Number of Context Switches = 0

Output for the input100 file FCFS

61	83	21	53		568.0	464.0	485.0	464.0	0
62	84	4	60		89.0	1.0	5.0	1.0	0
63	86	12	83		169.0	71.0	83.0	71.0	0
64	88	40	56		1614.0	1486.0	1526.0	1486.0	0
65	90	26	50		758.0	642.0	668.0	642.0	0
66	92	4	65		101.0	5.0	9.0	5.0	0
67	94	32	84		1106.0	980.0	1012.0	980.0	0
68	96	11	91		142.0	35.0	46.0	35.0	0
69	98	6	79		107.0	3.0	9.0	3.0	0
70	99	7	12		114.0	8.0	15.0	8.0	0
71	101	39	40		1574.0	1434.0	1473.0	1434.0	0
72	103	33	87		1205.0	1069.0	1102.0	1069.0	0
73	104	26	86		784.0	654.0	680.0	654.0	0
74	105	29	60		922.0	788.0	817.0	788.0	0
75	106	37	60		1382.0	1239.0	1276.0	1239.0	0
76	108	45	72		2174.0	2021.0	2066.0	2021.0	0
77	109	34	89		1273.0	1130.0	1164.0	1130.0	0
78	111	31	88		1012.0	870.0	901.0	870.0	0
79	113	29	77		951.0	809.0	838.0	809.0	0
80	114	18	28		364.0	232.0	250.0	232.0	0
81	116	36	31		1309.0	1157.0	1193.0	1157.0	0
82	118	2	22		127.0	7.0	9.0	7.0	0
83	119	18	77		382.0	245.0	263.0	245.0	0
84	121	40	38		1654.0	1493.0	1533.0	1493.0	0
85	123	17	22		292.0	152.0	169.0	152.0	0
86	125	4	68		131.0	2.0	6.0	2.0	0
87	126	47	48		2266.0	2093.0	2140.0	2093.0	0
88	128	19	75		401.0	254.0	273.0	254.0	0
89	129	21	25		589.0	439.0	460.0	439.0	0
90	130	31	92		1043.0	882.0	913.0	882.0	0
91	131	26	50		810.0	653.0	679.0	653.0	0
92	132	1	22		143.0	10.0	11.0	10.0	0
93	133	15	77		225.0	77.0	92.0	77.0	0
94	135	31	19		1074.0	908.0	939.0	908.0	0
95	137	2	82		145.0	6.0	8.0	6.0	0
96	139	21	35		610.0	450.0	471.0	450.0	0
97	140	45	55		2219.0	2034.0	2079.0	2034.0	0
98	141	23	67		655.0	491.0	514.0	491.0	0
99	142	36	80		1345.0	1167.0	1203.0	1167.0	0
100	144	37	42		1419.0	1238.0	1275.0	1238.0	0

Average CPU Burst Time = 25.1ms      Average TurnAround Time = 802.83ms  
Average Waiting Time = 777.73ms      Average Response Time = 777.73ms  
Number of Context Switches = 0

# Input100 Algorithm SPF

60	82	21	87		547.0	444.0	465.0	444.0	0
61	83	21	53		568.0	464.0	485.0	464.0	0
62	84	4	60		89.0	1.0	5.0	1.0	0
63	86	12	83		169.0	71.0	83.0	71.0	0
64	88	40	56		1614.0	1486.0	1526.0	1486.0	0
65	90	26	50		758.0	642.0	668.0	642.0	0
66	92	4	65		101.0	5.0	9.0	5.0	0
67	94	32	84		1106.0	980.0	1012.0	980.0	0
68	96	11	91		142.0	35.0	46.0	35.0	0
69	98	6	79		107.0	3.0	9.0	3.0	0
70	99	7	12		114.0	8.0	15.0	8.0	0
71	101	39	40		1574.0	1434.0	1473.0	1434.0	0
72	103	33	87		1205.0	1069.0	1102.0	1069.0	0
73	104	26	86		784.0	654.0	680.0	654.0	0
74	105	29	60		922.0	788.0	817.0	788.0	0
75	106	37	60		1382.0	1239.0	1276.0	1239.0	0
76	108	45	72		2174.0	2021.0	2066.0	2021.0	0
77	109	34	89		1273.0	1130.0	1164.0	1130.0	0
78	111	31	88		1012.0	870.0	901.0	870.0	0
79	113	29	77		951.0	809.0	838.0	809.0	0
80	114	18	28		364.0	232.0	250.0	232.0	0
81	116	36	31		1309.0	1157.0	1193.0	1157.0	0
82	118	2	22		127.0	7.0	9.0	7.0	0
83	119	18	77		382.0	245.0	263.0	245.0	0
84	121	40	38		1654.0	1493.0	1533.0	1493.0	0
85	123	17	22		292.0	152.0	169.0	152.0	0
86	125	4	68		131.0	2.0	6.0	2.0	0
87	126	47	48		2266.0	2093.0	2140.0	2093.0	0
88	128	19	75		401.0	254.0	273.0	254.0	0
89	129	21	25		589.0	439.0	460.0	439.0	0
90	130	31	92		1043.0	882.0	913.0	882.0	0
91	131	26	50		810.0	653.0	679.0	653.0	0
92	132	1	22		143.0	10.0	11.0	10.0	0
93	133	15	77		225.0	77.0	92.0	77.0	0
94	135	31	19		1074.0	908.0	939.0	908.0	0
95	137	2	82		145.0	6.0	8.0	6.0	0
96	139	21	35		610.0	450.0	471.0	450.0	0
97	140	45	55		2219.0	2034.0	2079.0	2034.0	0
98	141	23	67		655.0	491.0	514.0	491.0	0
99	142	36	80		1345.0	1167.0	1203.0	1167.0	0
100	144	37	42		1419.0	1238.0	1275.0	1238.0	0
Average CPU Burst Time = 25.1ms					Average TurnAround Time = 802.83ms				
Average Waiting Time = 777.73ms					Average Response Time = 777.73ms				
Number of Context Switches = 0									

# Input100 Algorithm PP

60	82	21	87		2162.0	2059.0	2080.0	2059.0	0
61	83	21	53		1174.0	1070.0	1091.0	1070.0	0
62	84	4	60		1435.0	1347.0	1351.0	1347.0	0
63	86	12	83		2035.0	1937.0	1949.0	1937.0	0
64	88	40	56		1276.0	1148.0	1188.0	1148.0	0
65	90	26	50		1127.0	1011.0	1037.0	1011.0	0
66	92	4	65		1570.0	1474.0	1478.0	1474.0	0
67	94	32	84		2067.0	1941.0	1973.0	1941.0	0
68	96	11	91		2315.0	2208.0	2219.0	2208.0	0
69	98	6	79		1880.0	1776.0	1782.0	1776.0	0
70	99	7	12		310.0	204.0	211.0	204.0	0
71	101	39	40		925.0	785.0	824.0	785.0	0
72	103	33	87		2195.0	2059.0	2092.0	2059.0	0
73	104	26	86		2141.0	2011.0	2037.0	2011.0	0
74	105	29	60		1464.0	1330.0	1359.0	1330.0	0
75	106	37	60		1501.0	1358.0	1395.0	1358.0	0
76	108	45	72		1761.0	1608.0	1653.0	1608.0	0
77	109	34	89		2304.0	2161.0	2195.0	2161.0	0
78	111	31	88		2270.0	2128.0	2159.0	2128.0	0
79	113	29	77		1841.0	1699.0	1728.0	1699.0	0
80	114	18	28		709.0	577.0	595.0	577.0	0
81	116	36	31		745.0	593.0	629.0	593.0	0
82	118	2	22		629.0	509.0	511.0	509.0	0
83	119	18	77		1859.0	1722.0	1740.0	1722.0	0
84	121	40	38		886.0	725.0	765.0	725.0	0
85	123	17	22		646.0	506.0	523.0	506.0	0
86	125	4	68		1668.0	1539.0	1543.0	1539.0	0
87	126	47	48		1101.0	928.0	975.0	928.0	0
88	128	19	75		1812.0	1665.0	1684.0	1665.0	0
89	129	21	25		691.0	541.0	562.0	541.0	0
90	130	31	92		2413.0	2252.0	2283.0	2252.0	0
91	131	26	50		1153.0	996.0	1022.0	996.0	0
92	132	1	22		647.0	514.0	515.0	514.0	0
93	133	15	77		1874.0	1726.0	1741.0	1726.0	0
94	135	31	19		517.0	351.0	382.0	351.0	0
95	137	2	82		2020.0	1881.0	1883.0	1881.0	0
96	139	21	35		766.0	606.0	627.0	606.0	0
97	140	45	55		1236.0	1051.0	1096.0	1051.0	0
98	141	23	67		1593.0	1429.0	1452.0	1429.0	0
99	142	36	80		1992.0	1814.0	1850.0	1814.0	0
100	144	37	42		1024.0	843.0	880.0	843.0	0
Average CPU Burst Time = 25.1ms					Average TurnAround Time = 1232.7ms				
Average Waiting Time = 1207.6ms					Average Response Time = 1153.1ms				
Number of Context Switches = 6									

# Input100 Round Robing Algorithm 4

60	82	21	87	2001.5	1898.5	1919.5	243.5	5
61	83	21	53	2002.5	1898.5	1919.5	247.0	5
62	84	4	60	338.5	250.5	254.5	250.5	0
63	86	12	83	1116.0	1018.0	1030.0	257.0	2
64	88	40	56	2676.5	2548.5	2588.5	259.5	9
65	90	26	50	2228.0	2112.0	2138.0	266.5	6
66	92	4	65	365.0	269.0	273.0	269.0	0
67	94	32	84	2410.0	2284.0	2316.0	275.5	7
68	96	11	91	1141.5	1034.5	1045.5	278.0	2
69	98	6	79	780.0	676.0	682.0	280.5	1
70	99	7	12	787.5	681.5	688.5	288.5	1
71	101	39	40	2683.5	2543.5	2582.5	291.0	9
72	103	33	87	2564.5	2428.5	2461.5	298.0	8
73	104	26	86	2243.5	2113.5	2139.5	301.5	6
74	105	29	60	2420.0	2286.0	2315.0	305.0	7
75	106	37	60	2684.5	2541.5	2578.5	308.5	9
76	108	45	72	2786.5	2633.5	2678.5	315.5	11
77	109	34	89	2575.5	2432.5	2466.5	319.0	8
78	111	31	88	2436.5	2294.5	2325.5	321.5	7
79	113	29	77	2442.0	2300.0	2329.0	328.5	7
80	114	18	28	1831.0	1699.0	1717.0	332.0	4
81	116	36	31	2584.0	2432.0	2468.0	334.5	8
82	118	2	22	461.5	341.5	343.5	341.5	0
83	119	18	77	1837.5	1700.5	1718.5	342.5	4
84	121	40	38	2695.0	2534.0	2574.0	345.0	9
85	123	17	22	1843.0	1703.0	1720.0	352.0	4
86	125	4	68	483.5	354.5	358.5	354.5	0
87	126	47	48	2789.5	2616.5	2663.5	357.5	11
88	128	19	75	1850.5	1703.5	1722.5	364.5	4
89	129	21	25	2091.5	1941.5	1962.5	368.0	5
90	130	31	92	2458.5	2297.5	2328.5	371.5	7
91	131	26	50	2301.5	2144.5	2170.5	379.5	6
92	132	1	22	516.0	383.0	384.0	383.0	0
93	133	15	77	1587.5	1439.5	1454.5	383.0	3
94	135	31	19	2466.0	2300.0	2331.0	385.5	7
95	137	2	82	531.5	392.5	394.5	392.5	0
96	139	21	35	2110.5	1950.5	1971.5	392.5	5
97	140	45	55	2790.5	2605.5	2650.5	400.5	11
98	141	23	67	2118.0	1954.0	1977.0	404.0	5
99	142	36	80	2604.5	2426.5	2462.5	407.5	8
100	144	37	42	2705.0	2524.0	2561.0	410.0	9
Average CPU Burst Time = 25.1ms				Average TurnAround Time = 1785.68ms				
Average Waiting Time = 1760.59ms				Average Response Time = 203.615ms				
Number of Context Switches = 569								



# Input100 RR algorithm 16

58	79	8	45	851.0	764.0	772.0	764.0	0
59	80	48	86	2475.0	2347.0	2395.0	771.0	2
60	82	21	87	1904.0	1801.0	1822.0	785.5	1
61	83	21	53	1909.0	1805.0	1826.0	801.0	1
62	84	4	60	904.5	816.5	820.5	816.5	0
63	86	12	83	926.5	828.5	840.5	828.5	0
64	88	40	56	2483.0	2355.0	2395.0	838.5	2
65	90	26	50	1935.5	1819.5	1845.5	853.0	1
66	92	4	65	963.5	867.5	871.5	867.5	0
67	94	32	84	1951.5	1825.5	1857.5	869.5	1
68	96	11	91	991.0	884.0	895.0	884.0	0
69	98	6	79	997.0	893.0	899.0	893.0	0
70	99	7	12	1004.0	898.0	905.0	898.0	0
71	101	39	40	2490.0	2350.0	2389.0	903.0	2
72	103	33	87	2491.0	2355.0	2388.0	922.5	2
73	104	26	86	1994.5	1864.5	1890.5	938.0	1
74	105	29	60	2007.5	1873.5	1902.5	953.5	1
75	106	37	60	2496.0	2353.0	2390.0	969.0	2
76	108	45	72	2509.0	2356.0	2401.0	983.5	2
77	109	34	89	2511.0	2368.0	2402.0	999.0	2
78	111	31	88	2072.0	1930.0	1961.0	1013.5	1
79	113	29	77	2085.0	1943.0	1972.0	1028.0	1
80	114	18	28	2087.0	1955.0	1973.0	1043.5	1
81	116	36	31	2515.0	2363.0	2399.0	1058.0	2
82	118	2	22	1209.0	1089.0	1091.0	1089.0	0
83	119	18	77	2115.5	1978.5	1996.5	1090.0	1
84	121	40	38	2523.0	2362.0	2402.0	1104.5	2
85	123	17	22	2133.0	1993.0	2010.0	1119.0	1
86	125	4	68	1262.5	1133.5	1137.5	1133.5	0
87	126	47	48	2538.0	2365.0	2412.0	1136.5	2
88	128	19	75	2152.5	2005.5	2024.5	1151.0	1
89	129	21	25	2157.5	2007.5	2028.5	1166.5	1
90	130	31	92	2172.5	2011.5	2042.5	1182.0	1
91	131	26	50	2182.5	2025.5	2051.5	1197.5	1
92	132	1	22	1346.0	1213.0	1214.0	1213.0	0
93	133	15	77	1361.0	1213.0	1228.0	1213.0	0
94	135	31	19	2198.5	2032.5	2063.5	1242.5	1
95	137	2	82	1396.0	1257.0	1259.0	1257.0	0
96	139	21	35	2203.5	2043.5	2064.5	1257.0	1
97	140	45	55	2551.0	2366.0	2411.0	1272.5	2
98	141	23	67	2227.0	2063.0	2086.0	1288.0	1
99	142	36	80	2555.0	2377.0	2413.0	1303.5	2
100	144	37	42	2560.0	2379.0	2416.0	1318.0	2
Average CPU Burst Time = 25.1ms				Average TurnAround Time = 1602.55ms				
Average Waiting Time = 1577.45ms				Average Response Time = 655.89ms				
Number of Context Switches = 108								



Input100 RR 64

58	79	8	45	1485.0	1398.0	1406.0	1398.0	0
59	80	48	86	1533.0	1405.0	1453.0	1405.0	0
60	82	21	87	1554.0	1451.0	1472.0	1451.0	0
61	83	21	53	1575.0	1471.0	1492.0	1471.0	0
62	84	4	60	1579.0	1491.0	1495.0	1491.0	0
63	86	12	83	1591.0	1493.0	1505.0	1493.0	0
64	88	40	56	1631.0	1503.0	1543.0	1503.0	0
65	90	26	50	1657.0	1541.0	1567.0	1541.0	0
66	92	4	65	1661.0	1565.0	1569.0	1565.0	0
67	94	32	84	1693.0	1567.0	1599.0	1567.0	0
68	96	11	91	1704.0	1597.0	1608.0	1597.0	0
69	98	6	79	1710.0	1606.0	1612.0	1606.0	0
70	99	7	12	1717.0	1611.0	1618.0	1611.0	0
71	101	39	40	1756.0	1616.0	1655.0	1616.0	0
72	103	33	87	1789.0	1653.0	1686.0	1653.0	0
73	104	26	86	1815.0	1685.0	1711.0	1685.0	0
74	105	29	60	1844.0	1710.0	1739.0	1710.0	0
75	106	37	60	1881.0	1738.0	1775.0	1738.0	0
76	108	45	72	1926.0	1773.0	1818.0	1773.0	0
77	109	34	89	1960.0	1817.0	1851.0	1817.0	0
78	111	31	88	1991.0	1849.0	1880.0	1849.0	0
79	113	29	77	2020.0	1878.0	1907.0	1878.0	0
80	114	18	28	2038.0	1906.0	1924.0	1906.0	0
81	116	36	31	2074.0	1922.0	1958.0	1922.0	0
82	118	2	22	2076.0	1956.0	1958.0	1956.0	0
83	119	18	77	2094.0	1957.0	1975.0	1957.0	0
84	121	40	38	2134.0	1973.0	2013.0	1973.0	0
85	123	17	22	2151.0	2011.0	2028.0	2011.0	0
86	125	4	68	2155.0	2026.0	2030.0	2026.0	0
87	126	47	48	2202.0	2029.0	2076.0	2029.0	0
88	128	19	75	2221.0	2074.0	2093.0	2074.0	0
89	129	21	25	2242.0	2092.0	2113.0	2092.0	0
90	130	31	92	2273.0	2112.0	2143.0	2112.0	0
91	131	26	50	2299.0	2142.0	2168.0	2142.0	0
92	132	1	22	2300.0	2167.0	2168.0	2167.0	0
93	133	15	77	2315.0	2167.0	2182.0	2167.0	0
94	135	31	19	2346.0	2180.0	2211.0	2180.0	0
95	137	2	82	2348.0	2209.0	2211.0	2209.0	0
96	139	21	35	2369.0	2209.0	2230.0	2209.0	0
97	140	45	55	2414.0	2229.0	2274.0	2229.0	0
98	141	23	67	2437.0	2273.0	2296.0	2273.0	0
99	142	36	80	2473.0	2295.0	2331.0	2295.0	0
100	144	37	42	2510.0	2329.0	2366.0	2329.0	0
Average CPU Burst Time = 25.1ms				Average TurnAround Time = 1181.46ms				
Average Waiting Time = 1156.36ms				Average Response Time = 1156.36ms				
Number of Context Switches = 0								

## Tested in Putty

```
skarakha@csci-gnode-02:~/OSHW2
Password:
Password will expire in 10 days
Last login: Wed Oct  7 15:34:39 2020 from ucdencsegrid01.ucdenver.pvt
[skarakha@csci-gnode-02 ~]$ cd OSHW2
[skarakha@csci-gnode-02 ~/OSHW2]$ make
g++ -o sched main1.cpp
[skarakha@csci-gnode-02 ~/OSHW2]$ ls
input10 main1.cpp makefile sched
[skarakha@csci-gnode-02 ~/OSHW2]$ ./sched input10 0
*****
***** First Come First Server *****
*****
pID      arrival BurstT  PrioT   finishT waitT   turnAT  respT   NoOfContext
1         0         10       37     |10.0    0.0     10.0    0.0      0
2         1         3        0     |13.0    9.0     12.0    9.0      0
3         2         8       51     |21.0   11.0     19.0   11.0      0
4         4         4       84     |25.0   17.0     21.0   17.0      0
5         5         5       44     |30.0   20.0     25.0   20.0      0
6         6         7       28     |37.0   24.0     31.0   24.0      0
7         9         2       97     |39.0   28.0     30.0   28.0      0
8        10         6       70     |45.0   29.0     35.0   29.0      0
9        13         1       15     |46.0   32.0     33.0   32.0      0
10       15         9        7     |55.0   31.0     40.0   31.0      0
Average CPU Burst Time = 5.5ms  Average TurnAround Time = 25.6ms
Average Waiting Time = 20.1ms  Average Response Time = 20.1ms
Number of Context Switches = 0
[skarakha@csci-gnode-02 ~/OSHW2]$ ./sched input10 1
*****
***** Shortest Process First *****
*****
pID      arrival BurstT  PrioT   finishT waitT   turnAT  respT   NoOfContext
1         0         10       37     |10.0    0.0     10.0    0.0      0
2         1         3        0     |15.0   11.0     14.0   11.0      0
3         2         8       51     |46.0   36.0     44.0   36.0      0
4         4         4       84     |20.0   12.0     16.0   12.0      0
5         5         5       44     |25.0   15.0     20.0   15.0      0
6         6         7       28     |38.0   25.0     32.0   25.0      0
7         9         2       97     |12.0    1.0      3.0    1.0      0
8        10         6       70     |31.0   15.0     21.0   15.0      0
9        13         1       15     |16.0    2.0      3.0    2.0      0
10       15         9        7     |55.0   31.0     40.0   31.0      0
Average CPU Burst Time = 5.5ms  Average TurnAround Time = 20.3ms
Average Waiting Time = 14.8ms  Average Response Time = 14.8ms
Number of Context Switches = 0
[skarakha@csci-gnode-02 ~/OSHW2]$
```

```

[skarakha@csci-gnode-02 ~/OSHW2]$ ./sched input10 2
*****
***** Highest Priority First *****
*****
pID      arrival BurstT  PrioT   finishT waitT   turnAT  respT   NoOfContext
1         0         10      37      |32.0    22.0    32.0    0.0     3
2         1         3       0       |4.5     0.5     3.5     0.5     0
3         2         8       51      |45.0    35.0    43.0    35.0    0
4         4         4       84      |55.0    47.0    51.0    47.0    0
5         5         5       44      |37.0    27.0    32.0    27.0    0
6         6         7       28      |15.5     2.5     9.5     1.0     1
7         9         2       97      |57.0    46.0    48.0    46.0    0
8        10         6       70      |51.0    35.0    41.0    35.0    0
9        13         1       15      |14.5     0.5     1.5     0.5     0
10       15         9       7       |25.0     1.0    10.0     1.0     0
Average CPU Burst Time = 5.5ms   Average TurnAround Time = 27.15ms
Average Waiting Time = 21.65ms  Average Response Time = 19.3ms
Number of Context Switches = 4
[skarakha@csci-gnode-02 ~/OSHW2]$ ./sched input10 3 4
*****
***** Round Robin *****
***** Time Quantum:4 *****
*****
pID      arrival BurstT  PrioT   finishT waitT   turnAT  respT   NoOfContext
1         0         10      37      |47.5    37.5    47.5    0.0     2
2         1         3       0       |7.5     3.5     6.5     3.5     0
3         2         8       51      |40.0    30.0    38.0     5.5     1
4         4         4       84      |16.0     8.0    12.0     8.0     0
5         5         5       44      |48.5    38.5    43.5    15.5     1
6         6         7       28      |51.5    38.5    45.5    19.0     1
7         9         2       97      |31.5    20.5    22.5    20.5     0
8        10         6       70      |53.5    37.5    43.5    21.5     1
9        13         1       15      |41.0    27.0    28.0    27.0     0
10       15         9       7       |59.0    35.0    44.0    26.0     2
Average CPU Burst Time = 5.5ms   Average TurnAround Time = 33.1ms
Average Waiting Time = 27.6ms   Average Response Time = 14.65ms
Number of Context Switches = 8
[skarakha@csci-gnode-02 ~/OSHW2]$ █

```