

```
1  Finishing the main thread ...
2  Apple0
3  Orange0
4  Orange1
5  Orange2
6  Orange3
7  Orange4
8  Orange5
9  Apple1
10 Apple2
11 Apple3
12 Apple4
13 Apple5
14 Apple6
15 Apple7
16 Apple8
17 Apple9
18 -----
19 Finishing the main thread ...
20 Orange0
21 Apple0
22 Orange1
23 Apple1
24 Orange2
25 Apple2
26 Orange3
27 Apple3
28 Apple4
29 Apple5
30 Apple6
31 Apple7
32 Apple8
33 Apple9
34 Orange4
35 Orange5
36 =====
37 Starting Runnable threads
38 Runnable Threads has been started
39 Starting MyThreads
40 MyThreads has been started
41 Doing heavy processing - START t2
42 RunnableExample.MyThread - START t3
43 Doing heavy processing - START t1
44 RunnableExample.MyThread - START t4
45 RunnableExample.MyThread - END t3
46 Doing heavy processing - END t1
47 RunnableExample.MyThread - END t4
48 Doing heavy processing - END t2
49 -----
50 Starting Runnable threads
51 Runnable Threads has been started
52 Starting MyThreads
53 MyThreads has been started
54 RunnableExample.MyThread - START t3
55 Doing heavy processing - START t2
56 Doing heavy processing - START t1
57 RunnableExample.MyThread - START t4
58 RunnableExample.MyThread - END t3
59 Doing heavy processing - END t1
60 RunnableExample.MyThread - END t4
61 Doing heavy processing - END t2
62 =====
63 Starting Executor
64 task1 going to sleep for 2059 milliseconds.
65 task2 going to sleep for 3948 milliseconds.
66 task3 going to sleep for 2262 milliseconds.
67 Tasks started, main ends.
68
69 task1 done sleeping
```

```

70 task3 done sleeping
71 task2 done sleeping
72 -----
73 Starting Executor
74 Tasks started, main ends.
75
76 task1 going to sleep for 4708 milliseconds.
77 task3 going to sleep for 1405 milliseconds.
78 task2 going to sleep for 3012 milliseconds.
79 task3 done sleeping
80 task2 done sleeping
81 task1 done sleeping
82 =====
83 UnsynchronizedExample:
84
85 pool-1-thread-2 wrote 11 to element 0.
86 Next write index: 1
87 pool-1-thread-2 wrote 12 to element 1.
88 Next write index: 2
89 pool-1-thread-1 wrote 1 to element 0.
90 Next write index: 3
91 pool-1-thread-2 wrote 13 to element 2.
92 Next write index: 4
93 pool-1-thread-1 wrote 2 to element 3.
94 Next write index: 5
95 pool-1-thread-1 wrote 3 to element 5.
96 Next write index: 6
97
98 Contents of SimpleArray:
99 [1, 12, 13, 2, 0, 3]
100 -----
101 pool-1-thread-1 wrote 1 to element 0.
102 Next write index: 1
103 pool-1-thread-2 wrote 11 to element 0.
104 Next write index: 2
105 pool-1-thread-1 wrote 2 to element 1.
106 Next write index: 3
107 pool-1-thread-1 wrote 3 to element 3.
108 Next write index: 4
109 pool-1-thread-2 wrote 12 to element 2.
110 Next write index: 5
111 pool-1-thread-2 wrote 13 to element 5.
112 Next write index: 6
113
114 Contents of SimpleArray:
115 [11, 2, 12, 3, 0, 13]
116 =====
117 SynchronizedExample:
118
119 pool-1-thread-1 wrote 1 to element 0.
120 Next write index: 1
121 pool-1-thread-1 wrote 2 to element 1.
122 Next write index: 2
123 pool-1-thread-2 wrote 11 to element 2.
124 Next write index: 3
125 pool-1-thread-1 wrote 3 to element 3.
126 Next write index: 4
127 pool-1-thread-2 wrote 12 to element 4.
128 Next write index: 5
129 pool-1-thread-2 wrote 13 to element 5.
130 Next write index: 6
131
132 Contents of SimpleArray:
133 [1, 2, 11, 3, 12, 13]
134 -----
135 pool-1-thread-1 wrote 1 to element 0.
136 Next write index: 1
137 pool-1-thread-1 wrote 2 to element 1.
138 Next write index: 2

```

```

139 pool-1-thread-2 wrote 11 to element 2.
140 Next write index: 3
141 pool-1-thread-1 wrote 3 to element 3.
142 Next write index: 4
143 pool-1-thread-2 wrote 12 to element 4.
144 Next write index: 5
145 pool-1-thread-2 wrote 13 to element 5.
146 Next write index: 6
147
148 Contents of SimpleArray:
149 [1, 2, 11, 3, 12, 13]
150 =====
151 ProdConsumeExample:
152 Producer writes 1 Buffer cells occupied: 1
153 Consumer reads 1 Buffer cells occupied: 0
154 Producer writes 2 Buffer cells occupied: 1
155 Consumer reads 2 Buffer cells occupied: 0
156 Producer writes 3 Buffer cells occupied: 1
157 Consumer reads 3 Buffer cells occupied: 0
158 Producer writes 4 Buffer cells occupied: 1
159 Consumer reads 4 Buffer cells occupied: 0
160 Producer writes 5 Buffer cells occupied: 1
161 Consumer reads 5 Buffer cells occupied: 0
162 Producer writes 6 Buffer cells occupied: 1
163 Consumer reads 6 Buffer cells occupied: 0
164 Producer writes 7 Buffer cells occupied: 1
165 Consumer reads 7 Buffer cells occupied: 0
166 Producer writes 8 Buffer cells occupied: 1
167 Consumer reads 8 Buffer cells occupied: 0
168 Producer writes 9 Buffer cells occupied: 1
169 Consumer reads 9 Buffer cells occupied: 0
170 Producer writes 10 Buffer cells occupied: 1
171 Producer done producing
172 Terminating Producer
173 Consumer reads 10 Buffer cells occupied: 0
174
175 Consumer read values totaling 55
176 Terminating Consumer
177 =====
178 WaitNotifyExample:
179 Operation                                Buffer      Occupied
180 -----                                -
181
182 Consumer tries to read.
183 Buffer empty. Consumer waits.              -1      false
184
185 Producer writes 1                          1       true
186
187 Consumer reads 1                          1       false
188
189 Producer writes 2                          2       true
190
191 Producer tries to write.
192 Buffer full. Producer waits.pool-1-thread-12      true
193
194 Consumer reads 2                          2       false
195
196 Producer writes 3                          3       true
197
198 Consumer reads 3                          3       false
199
200 Producer writes 4                          4       true
201
202 Consumer reads 4                          4       false
203
204 Consumer tries to read.
205 Buffer empty. Consumer waits.              4       false
206
207 Producer writes 5                          5       true

```

208			
209	Consumer reads 5	5	false
210			
211	Producer writes 6	6	true
212			
213	Consumer reads 6	6	false
214			
215	Consumer tries to read.		
216	Buffer empty. Consumer waits.	6	false
217			
218	Producer writes 7	7	true
219			
220	Consumer reads 7	7	false
221			
222	Consumer tries to read.		
223	Buffer empty. Consumer waits.	7	false
224			
225	Producer writes 8	8	true
226			
227	Consumer reads 8	8	false
228			
229	Consumer tries to read.		
230	Buffer empty. Consumer waits.	8	false
231			
232	Producer writes 9	9	true
233			
234	Consumer reads 9	9	false
235			
236	Consumer tries to read.		
237	Buffer empty. Consumer waits.	9	false
238			
239	Producer writes 10	10	true
240			
241	Consumer reads 10	10	false
242			
243	Producer done producing		
244	Terminating Producer		
245			
246	Consumer read values totaling 55		
247	Terminating Consumer		
248			