

test_output

```
1** The following tests were done by Francis Okoyo franciso 213811336 **
2Test1 :
3
4alarm> Diagram
5
6FBad command
7ialarm> galarm> ure 1: Overall system design.
8Bad command
9alarm> 3 MessageType(2, 1) Wie geht es dir?
10Type A Alarm Request With Message Number <1> Received at time <1522429831>: <Type A>
11alarm> 4 MessageType(2, 5) Es geht mir gut!
12Type A Alarm Request With Message Number <5> Received at time <1522429836>: <Type A>
13alarm> 2 MessageType(3, 22) Bruh!
14Type A Alarm Request With Message Number <22> Received at time <1522429840>: <Type A>
15alarm> Create_Thread: MessageType(3)
16Type B Create Thread Alarm Request With Message Type (3) Inserted Into Alarm List at <1522429846>!
17alarm> Type B Alarm Request Processed at <1522429846>: New Periodic Display Thread With Message Type (3) Created.
18Alarm With Message Type (3) and Message Number (22) Displayed at <1522429848>: <Type A> : "Bruh!"
19Alarm With Message Type (3) and Message Number (22) Displayed at <1522429850>: <Type A> : "Bruh!"
20Create_Thread: MessageType(1)
21Type B Alarm Request Error: No Alarm Request With Message Type(1)!
22alarm> Alarm With Message Type (3) and Message Number (22) Displayed at <1522429852>: <Type A> : "Bruh!"
23Alarm With Message Type (3) and Message Number (22) Displayed at <1522429854>: <Type A> : "Bruh!"
24Alarm With Message Type (3) and Message Number (22) Displayed at <1522429856>: <Type A> : "Bruh!"
25Create_Thread: MessageType(2)
26Alarm With Message Type (3) and Message Number (22) Displayed at <1522429858>: <Type A> : "Bruh!"
27Type B Create Thread Alarm Request With Message Type (2) Inserted Into Alarm List at <1522429858>!
28alarm> Type B Alarm Request Processed at <1522429858>: New Periodic Display Thread With Message Type (2) Created.
29Alarm With Message Type (3) and Message Number (22) Displayed at <1522429860>: <Type A> : "Bruh!"
30Alarm With Message Type (2) and Message Number (1) Displayed at <1522429861>: <Type A> : "Wie geht es dir?"
31Alarm With Message Type (3) and Message Number (22) Displayed at <1522429862>: <Type A> : "Bruh!"
32Alarm With Message Type (3) and Message Number (22) Displayed at <1522429864>: <Type A> : "Bruh!"
33Alarm With Message Type (2) and Message Number (5) Displayed at <1522429865>: <Type A> : "Es geht mir gut!"
34Alarm With Message Type (3) and Message Number (22) Displayed at <1522429866>: <Type A> : "Bruh!"
35Alarm With Message Type (2) and Message Number (1) Displayed at <1522429868>: <Type A> : "Wie geht es dir?"
36Alarm With Message Type (3) and Message Number (22) Displayed at <1522429868>: <Type A> : "Bruh!"
37Alarm With Message Type (3) and Message Number (22) Displayed at <1522429870>: <Type A> : "Bruh!"
38Alarm With Message Type (2) and Message Number (5) Displayed at <1522429872>: <Type A> : "Es geht mir gut!"
39Alarm With Message Type (3) and Message Number (22) Displayed at <1522429872>: <Type A> : "Bruh!"
40Alarm With Message Type (3) and Message Number (22) Displayed at <1522429874>: <Type A> : "Bruh!"
41Alarm With Message Type (2) and Message Number (1) Displayed at <1522429875>: <Type A> : "Wie geht es dir?"
42Cancel: Message(22)
```

test_output

```
43 Alarm With Message Type (3) and Message Number (22) Displayed at <1522429876>: <Type A> : "Bruh!"
44 Alarm With Message Type (2) and Message Number (5) Displayed at <1522429879>: <Type A> : "Es geht mir gut!"
45 Type C Cancel Alarm Request With Message Number (22) Inserted Into Alarm List at <1522429879>: <Type C>
46 alarm> Type C Alarm Request Processed at <1522429879>: Alarm Request With Message Number (22) Removed
47 No More Alarm Requests With Message Type (3): Periodic Display Thread For Message Type (3) Terminated.
48 Alarm With Message Type (2) and Message Number (1) Displayed at <1522429882>: <Type A> : "Wie geht es dir?"
49 Alarm With Message Type (2) and Message Number (5) Displayed at <1522429886>: <Type A> : "Es geht mir gut!"
50 Alarm With Message Type (2) and Message Number (1) Displayed at <1522429889>: <Type A> : "Wie geht es dir?"
51 Cancel: Message(1)
52 Alarm With Message Type (2) and Message Number (5) Displayed at <1522429893>: <Type A> : "Es geht mir gut!"
53 Type C Cancel Alarm Request With Message Number (1) Inserted Into Alarm List at <1522429893>: <Type C>
54 alarm> Alarm With Message Type (2) and Message Number (1) Displayed at <1522429896>: <Type A> : "Wie geht es dir?"
55 Type C Alarm Request Processed at <1522429896>: Alarm Request With Message Number (1) Removed
56 Alarm With Message Type (2) and Message Number (5) Displayed at <1522429900>: <Type A> : "Es geht mir gut!"
57 Alarm With Message Type (2) and Message Number (5) Displayed at <1522429904>: <Type A> : "Es geht mir gut!"
58 Cancel: Message(5)
59 Alarm With Message Type (2) and Message Number (5) Displayed at <1522429908>: <Type A> : "Es geht mir gut!"
60 Type C Cancel Alarm Request With Message Number (5) Inserted Into Alarm List at <1522429908>: <Type C>
61 alarm> 1 Alarm With Message Type (2) and Message Number (5) Displayed at <1522429912>: <Type A> : "Es geht mir gut!"
62 Type C Alarm Request Processed at <1522429912>: Alarm Request With Message Number (5) Removed
63 No More Alarm Requests With Message Type (2): Periodic Display Thread For Message Type (2) Terminated.
64 51
65 Bad command
66 alarm> 15
67 **DEBUG MODE ENGAGED**
68 [Thread List: ]
69 [Alarm List: ]
70 Ready = 0 read_count = 0 writing = 0
71 **DEBUG MODE DISENGAGED**
72 alarm> franciso@WORK-STATION:/mnt/c/Users/francis/Desktop/EECS 3221/assign3/EECS3221Assignment3$
73
74
75 Test2 :
76
77 franciso@WORK-STATION:/mnt/c/Users/francis/Desktop/EECS 3221/assign3/EECS3221Assignment3$ ./a.out
78 alarm> 3 MessageType(2, 1) Wie geht es dir?
79 Type A Alarm Request With Message Number <1> Received at time <1522430168>: <Type A>
80 alarm> 15
81 **DEBUG MODE ENGAGED**
82 [Thread List: ]
83 [Alarm List: {Request Type = 1 Alarm # = 1 message type = 2} ]
84 Ready = 0 read_count = 0 writing = 0
```

test_output

```
85 **DEBUG MODE DISENGAGED**
86 alarm> 4 MessageType(2, 5) Es geht mir gut!
87 Type A Alarm Request With Message Number <5> Received at time <1522430177>: <Type A>
88 alarm> 15
89 **DEBUG MODE ENGAGED**
90 [Thread List: ]
91 [Alarm List: {Request Type = 1 Alarm # = 1 message type = 2} {Request Type = 1 Alarm # = 5 message type = 2} ]
92 Ready = 0 read_count = 0 writing = 0
93 **DEBUG MODE DISENGAGED**
94 alarm> Create_Thread: MessageType(2)
95 Type B Create Thread Alarm Request With Message Type (2) Inserted Into Alarm List at <1522430188>!
96 alarm> Type B Alarm Request Processed at <1522430188>: New Periodic Display Thread With Message Type (2) Created.
97 15
98 **DEBUG MODE ENGAGED**
99 [Thread List: {message type = 2 thread_id = <140240494724864>} ]
100 [Alarm List: {Request Type = 2 Alarm # = 0 message type = 2} {Request Type = 1 Alarm # = 1 message type = 2} {Request Type = 1 Alarm # = 5 message type = 2} ]
101 Ready = 0 read_count = 1 writing = 0
102 **DEBUG MODE DISENGAGED**
103 alarm> Alarm With Message Type (2) and Message Number (1) Displayed at <1522430191>: <Type A> : "Wie geht es dir?"
104 Alarm With Message Type (2) and Message Number (5) Displayed at <1522430195>: <Type A> : "Es geht mir gut!"
105 Alarm With Message Type (2) and Message Number (1) Displayed at <1522430198>: <Type A> : "Wie geht es dir?"
106 Cancel: Message(1)
107 Alarm With Message Type (2) and Message Number (5) Displayed at <1522430202>: <Type A> : "Es geht mir gut!"
108 Type C Cancel Alarm Request With Message Number (1) Inserted Into Alarm List at <1522430202>: <Type C>
109 alarm> Alarm With Message Type (2) and Message Number (1) Displayed at <1522430205>: <Type A> : "Wie geht es dir?"
110 Type C Alarm Request Processed at <1522430205>: Alarm Request With Message Number (1) Removed
111 15
112 **DEBUG MODE ENGAGED**
113 [Thread List: {message type = 2 thread_id = <140240494724864>} ]
114 [Alarm List: {Request Type = 2 Alarm # = 0 message type = 2} {Request Type = 1 Alarm # = 5 message type = 2} ]
115 Ready = 0 read_count = 1 writing = 0
116 **DEBUG MODE DISENGAGED**
117 alarm> Alarm With Message Type (2) and Message Number (5) Displayed at <1522430209>: <Type A> : "Es geht mir gut!"
118 Alarm With Message Type (2) and Message Number (5) Displayed at <1522430213>: <Type A> : "Es geht mir gut!"
119 Cancel: Message(5)
120 Alarm With Message Type (2) and Message Number (5) Displayed at <1522430217>: <Type A> : "Es geht mir gut!"
121 Type C Cancel Alarm Request With Message Number (5) Inserted Into Alarm List at <1522430217>: <Type C>
122 alarm> Type C Alarm Request Processed at <1522430217>: Alarm Request With Message Number (5) Removed
123 No More Alarm Requests With Message Type (2): Periodic Display Thread For Message Type (2) Terminated.
124 15
125 **DEBUG MODE ENGAGED**
```

test_output

```
126 [Thread List: ]
127 [Alarm List: ]
128 Ready = 0 read_count = 0 writing = 0
129 **DEBUG MODE DISENGAGED**
130 **////////////////////////////////////////////////////////////////////////**
131
132
133 /* testing for a fault (this series of inputs previously caused a segmentation fault) */
134 franciso@WORK-STATION:/mnt/c/Users/francis/Desktop/EECS 3221/assign3/EECS3221Assignment3/A3_francis_tyler_adham_lindan$ ./a.out
135 alarm>
136 alarm>
137 alarm>
138 alarm>
139 alarm>
140 alarm>
141 alarm>
142 alarm>
143 alarm>
144 alarm>
145 alarm>
146 alarm> 14 Message(3,1) test 1 fault
147 Type A Alarm Request With Message Number <1> Received at time <1522568891>: <Type A>
148 alarm> 16 Message(2,2) test 2 fault
149 Type A Alarm Request With Message Number <2> Received at time <1522568895>: <Type A>
150 alarm> Create_Thread: MessageType(3)
151 Type B Create Thread Alarm Request With Message Type (3) Inserted Into Alarm List at <1522568898>!
152 alarm> Type B Alarm Request Processed at <1522568898>: New Periodic Display Thread With Message Type (3) Created.
153 Create_Thread: MessageType(2)
154 Type B Create Thread Alarm Request With Message Type (2) Inserted Into Alarm List at <1522568902>!
155 alarm> Type B Alarm Request Processed at <1522568902>: New Periodic Display Thread With Message Type (2) Created.
156 16 Message(3,2) test 2 fault replace
157 Type A Replacement Alarm Request With Message Number (2) Received at <1522568907>: <A>
158 Type A Alarm Request With Message Number <2> Received at time <1522568907>: <Type A>
159 alarm> Alarm With Message Type (3) and Message Number (1) Displayed at <1522568912>: <Type A> : "test 1 fault"
160 Alarm With Message Type (2) and Message Number (2) Displayed at <1522568918>: <Type A> : "test 2 fault"
161 Alarm With Message Type (3) and Message Number (1) Displayed at <1522568926>: <Type A> : "test 1 fault"
162 15
163 **DEBUG MODE ENGAGED**
164 [Thread List: {message type = 3 thread_id = <139933322774272>} ]
165 [Alarm List: {Request Type = 2 Alarm # = 0 message type = 3} {Request Type = 1 Alarm # = 1 message type = 3} {Request Type = 1 Alarm # = 2 message type = 3} ]
166 Ready = 0 read_count = 0 writing = 0
```

test_output

```
167 **DEBUG MODE DISENGAGED**
168 alarm> Alarm With Message Type (3) and Message Number (2) Displayed at <1522568942>: <Type A> : "test 2 fault replace"
169 Cancel: Message(2)
170 Type C Cancel Alarm Request With Message Number (2) Inserted Into Alarm List at <1522568952>: <Type C>
171 alarm> Type C Alarm Request Processed at <1522568952>: Alarm Request With Message Number (2) Removed
172 Alarm With Message Type (3) and Message Number (1) Displayed at <1522568956>: <Type A> : "test 1 fault"
173      Cancel: Message(1)
174 Bad command
175 alarm> sdcsd
176 Bad command
177 alarm> Cancel: Message(1)
178 Bad command
179 alarm> Alarm With Message Type (3) and Message Number (2) Displayed at <1522568972>: <Type A> : "test 2 fault replace"
180 Cancel: Message(1)
181 Type C Cancel Alarm Request With Message Number (1) Inserted Into Alarm List at <1522568982>: <Type C>
182 alarm> Type C Alarm Request Processed at <1522568982>: Alarm Request With Message Number (1) Removed
183 No More Alarm Requests With Message Type (3): Periodic Display Thread For Message Type (3) Terminated.
184 Cancel: Message(1)
185 Alarm With Message Type (3) and Message Number (1) Displayed at <1522568986>: <Type A> : "test 1 fault"
186 Error: No Alarm Request With Message Number (1) to Cancel!
187 alarm> 15
188 **DEBUG MODE ENGAGED**
189 [Thread List: ]
190 [Alarm List: ]
191 Ready = 0 read_count = 0 writing = 0
192 **DEBUG MODE DISENGAGED**
193 alarm> clear
194 Bad command
195
```