```
1   PB_INP              EQU 0x400053C0          ;To take input
2
3                       AREA        main, READONLY, CODE
4                       THUMB
5                       EXTERN      DELAY100        ;Delay for Buttons
6                       EXTERN      portb_init      ;PortB Initialize
7                       EXTERN      IntStart        ;Interrupt settings (Given value in the R8)
8                       EXPORT      __main
9
10  __main              PROC
11
12      ;Rotation Type will be determined by R10 (1: Clockwise Rotation(Default), 2: Counter Clockwise
    Rotation)
13                      MOV         R10,#0x01
14      ;R9 begins with 1. Look in my_ST_ISR.file
15                      MOV         R9,#0x01
16                      BL          portb_init    ;PORT_B initializer
17                      MOV         R8,#10000      ;Default Rotation Speed Value
18                      BL          IntStart    ;Create SysTime
19  re                  LDR         R0,=PB_INP  ;Taking input
20                      LDR         R1,[R0]
21                      CMP         R1,#0xF0
22                      BEQ         re
23                      BL          DELAY100    ; To put a barrier for debouncing
24                      LDR         R2,[R0]
25                      CMP         R1,R2
26                      BNE         re          ; To put a barrier for debouncing
27
28                      CMP         R1,#0xF0    ; F0 == No button is pressed. Keep going
29                      BEQ         re
30
31                      CMP         R1,#0xE0    ; E0 == SW1 is pressed => Rotate Counter Clockwise
32                      BEQ         ccw
33
34                      CMP         R1,#0xD0    ; D0 == SW2 is pressed => Rotate Clockwise
35                      BEQ         cw
36
37                      CMP         R1,#0xB0    ; B0 == SW3 is pressed => Rotation Speed is changed to
    fast
38                      BEQ         speedup
39
40                      CMP         R1,#0x70    ; 70 == SW4 is pressed => Rotation Speed is changed to
    slow
41                      BEQ         speeddown
42
43                      B           re          ; Other cases => dont do anything
44
45  ccw                 LDR         R2,[R0]
46                      CMP         R2,R1
47                      BEQ         ccw         ;Wait until key is released
48                      MOV         R10,#0x02   ;Change R10 to 0x02 so that rotation can be in ccw (See
    my_STR_ISR.s)
49                      B           re
50
51  cw                  LDR         R2,[R0]
52                      CMP         R2,R1
53                      BEQ         cw          ;Wait until key is released
54                      MOV         R10,#0x01   ;Change R10 to 0x01 so that rotation can be in cw (See
    my_STR_ISR.s)
55                      B           re
56
57  speedup             LDR         R2,[R0]
58                      CMP         R2,R1
59                      BEQ         speedup     ;Wait until key is released
60                      MOV         R8,#9000    ; Set R8 to fast speed value. See InterruptStarter.s
61                      BL          IntStart
62                      B           re
63
64  speeddown           LDR         R2,[R0]
65                      CMP         R2,R1
66                      BEQ         speeddown   ;Wait until key is released
67                      MOV         R8,#30000   ; Set R8 to slow speed value. See InterruptStarter.s
68                      BL          IntStart
69                      B           re
70
71                      ALIGN
72                      ENDP
```

```
73                          END
74
```