

GROUP4: SMARTBREW PLC PROGRAM (INSTRUCTION LIST)

```
(  
A      I0.0  
O      I0.1  
O      I0.2  
O      I0.3  
O      I0.4  
)  
AN     I0.6  
=      M0.0  
L      W    T#1S,A  
SP     A,T1
```

```
(  
A      I0.0  
O      I0.1  
O      I0.2  
O      M0.1  
)  
A      I0.6  
AN     M0.2  
AN     I0.7  
AN     I0.5  
=      M0.1  
L      W    T#2S,A  
SR     A,T2
```

```
(  
A      T2  
O      M0.2  
)  
A      I0.6  
AN     M0.3  
AN     I0.7  
=      M0.2  
L      W    T#2S,A  
SR     A,T3
```

```
(  
A      T3  
O      M0.3  
)  
A      I0.6
```

AN		M0.4
AN		I0.7
=		M0.3
L	W	T#2S,A
SR		A,T4

(
A		T4
O		M0.4
)		
A		I0.6
AN		M0.5
AN		I0.7
=		M0.4
L	W	T#2S,A
SR		A,T5

(
A		T5
O		M0.5
)		
A		I0.6
AN		M0.6
AN		I0.7
=		M0.5
L	W	T#2S,A
SR		A,T6

(
A		T6
O		M0.6
)		
A		I0.6
AN		M0.7
AN		I0.7
=		M0.6
L	W	T#2S,A
SR		A,T7

(
A		T7
O		M0.7
)		

A		I0.6
AN		M1.0
AN		I0.7
=		M0.7
L	W	T#2S,A
SR		A,T8

(
A		T8
O		M1.0
)		
A		I0.6
AN		M1.1
AN		I0.7
=		M1.0
L	W	T#2S,A
SR		A,T9

(
A		T9
O		M1.1
)		
A		I0.6
AN		M1.2
AN		I0.7
=		M1.1
L	W	T#2S,A
SR		A,T10

(
A		T10
O		M1.2
)		
A		I0.6
AN		M1.3
AN		I0.7
=		M1.2
L	W	T#2S,A
SR		A,T11

(
A		T11
O		M1.3

)
A I0.6
AN M1.4
AN I0.7
= M1.3
L W T#2S,A
SR A,T12

(
A T12
O M1.4
)
A I0.6
AN M1.5
AN I0.7
= M1.4
L W T#2S,A
SR A,T13

(
A T13
O M1.5
)
A I0.6
AN M1.6
AN M3.1
AN I0.7
= M1.5
L W T#2S,A
SR A,T14

(
A T14
O M1.6
)
A I0.6
AN M1.7
AN M4.3
AN I0.7
= M1.6
L W T#2S,A
SR A,T15

(
A T15
O M1.7
)
A I0.6
AN M2.0
AN I0.7
=
L W T#2S,A
SR A,T16

(
A T16
O M2.0
)
A I0.6
AN M2.1
AN I0.7
=
L W T#2S,A
SR A,T17

(
A T17
O M2.1
)
A I0.6
AN M2.2
AN I0.7
=
L W T#2S,A
SR A,T18

(
A T18
O M2.2
)
A I0.6
AN M2.3
AN M3.1
AN I0.7
=
L W T#2S,A

SR A,T19

(
A T19
O M2.3
)
A I0.6
AN M2.4
AN M4.5
AN I0.7
= M2.3
L W T#2S,A
SR A,T20

(
A M2.3
O M12.4
)
A I0.6
AN T24
AN I0.7
= M12.4

(
A T20
O M2.4
)
A I0.6
AN M2.5
AN I0.7
= M2.4
L W T#2S,A
SR A,T21

(
A T21
O M2.5
)
A I0.6
AN M2.6
AN I0.7
= M2.5
L W T#2S,A
SR A,T22

```
(
A      T22
O      M2.6
)
A      I0.6
AN     M2.7
AN     I0.7
=      M2.6
L      W  T#2S,A
SR     A,T23
```

```
(
A      T23
O      M2.7
)
A      I0.6
AN     M3.0
AN     I0.7
=      M2.7
L      W  T#2S,A
SR     A,T24
```

```
(
A      T24
O      M3.0
)
A      I0.6
AN     M3.1
AN     I0.7
=      M3.0
L      W  T#2S,A
SR     A,T25
```

```
(
A      T25
O      T35
O      T50
O      T36
O      T62
O      M3.1
)
A      I0.6
```

AN		M3.2
AN		I0.7
=		M3.1
L	W	T#2S,A
SR		A,T26

(
A		T26
O		M3.2
)		
A		I0.6
AN		M3.3
AN		I0.7
=		M3.2
L	W	T#1S,A
SR		A,T27

(
A		T27
O		M3.3
)		
A		I0.6
AN		M3.4
AN		I0.7
=		M3.3
L	W	T#2S,A
SR		A,T28

(
A		T28
O		M3.4
)		
A		I0.6
AN		M3.5
AN		I0.7
=		M3.4
L	W	T#1S,A
SR		A,T29

(
A		T29
O		M3.5
)		
A		I0.6

AN		M3.6
AN		I0.7
=		M3.5
L	W	T#2S,A
SR		A,T30

(
A		T30
O		M3.6
)		
A		I0.6
AN		M3.7
AN		I0.7
=		M3.6
L	W	T#1S,A
SR		A,T31

(
A		T31
O		M3.7
)		
A		I0.6
AN		M4.0
AN		I0.7
=		M3.7
L	W	T#2S,A
SR		A,T32

(
A		T32
O		M4.0
)		
A		I0.6
AN		M4.1
AN		I0.7
=		M4.0
L	W	T#1S,A
SR		A,T33

(
A		T33
O		M4.1
)		
A		I0.6

AN		T34
AN		I0.7
=		M4.1
L	W	T#2S,A
SR		A,T34

(
A		I0.0
O		M4.2
)		
A		I0.6
AN		I0.5
AN		M4.3
AN		I0.7
=		M4.2

(
A		M4.2
O		M4.3
)		
A		I0.6
A		M1.5
AN		M3.1
AN		I0.7
=		M4.3
L	W	T#2S,A
SR		A,T35

(
A		I0.1
O		M4.4
)		
A		I0.6
AN		I0.5
AN		M4.5
AN		I0.7
=		M4.4

(
A		M4.4
O		M4.5
)		

A		I0.6
A		M2.2
AN		M3.1
AN		I0.7
=		M4.5
L	W	T#2S,A
SR		A,T36

(
A		I0.3
O		M4.6
)		
A		I0.6
A		I0.6
AN		M4.7
AN		I0.7
AN		I0.5
=		M4.6
L	W	T#2S,A
SR		A,T37

(
A		T37
O		M4.7
)		
A		I0.6
AN		M5.0
AN		I0.7
=		M4.7
L	W	T#2S,A
SR		A,T38

(
A		T38
O		M5.0
)		
A		I0.6
AN		M5.1

AN
=
L W
SR A,T39

(
A T39
O M5.1
)

A I0.6
AN M5.2
AN I0.7
=
L W
SR A,T40

(
A T40
O M5.2
)
A I0.6
AN M5.3
AN I0.7
=
L W
SR A,T41

(
A T41
O M5.3
)
A I0.6
AN M5.4
AN I0.7
=
L W
SR A,T42

(
A T42
O M5.4
)
A I0.6
AN M5.5

AN
=
L W
SR A,T43

(
A T43
O M5.5
)

A I0.6
AN M5.6
AN I0.7
=
L W
SR A,T44

(
A T44
O M5.6
)
A I0.6
AN M5.7
AN I0.7
=
L W
SR A,T45

(
A T45
O M5.7
)
A I0.6
AN M6.0
AN I0.7
=
L W
SR A,T46

(
A T46
O M6.0
)
A I0.6
AN M6.1

AN		I0.7
=		M6.0
L	W	T#2S,A
SR		A,T47

(
A		T47
O		M6.1
)		

A		I0.6
AN		M6.2
AN		I0.7
=		M6.1
L	W	T#2S,A
SR		A,T48

(
A		T48
O		M6.2
)		
A		I0.6
AN		M6.3
AN		I0.7
=		M6.2
L	W	T#2S,A
SR		A,T49

(
A		T49
O		M6.3
)		
A		I0.6
AN		M6.4
AN		M3.1
AN		I0.7
=		M6.3
L	W	T#2S,A
SR		A,T50

(
A		M4.6
O		M5.6
O		M6.4

)
A I0.6
AN T43
AN T49
= M6.4

(
A I0.4
O M6.5
)
A I0.6
AN M6.6
AN I0.7
AN I0.5
= M6.5
L W T#2S,A
SR A,T51

(
A T51
O M6.6
)
A I0.6
AN M6.7
AN I0.7
= M6.6
L W T#2S,A
SR A,T52

(
A T52
O M6.7
)
A I0.6
AN M7.0
AN I0.7
= M6.7
L W T#2S,A
SR A,T53

(
A T53

O		M7.0
)		
A		I0.6
AN		M7.1
AN		I0.7
=		M7.0
L	W	T#2S,A
SR		A,T54

(
A		T54
O		M7.1
)		
A		I0.6
AN		M7.2
AN		I0.7
=		M7.1
L	W	T#2S,A
SR		A,T55

(
A		T55
O		M7.2
)		
A		I0.6
AN		M7.3
AN		I0.7
=		M7.2
L	W	T#2S,A
SR		A,T56

(
A		T56
O		M7.3
)		
A		I0.6
AN		M7.4
AN		I0.7
=		M7.3
L	W	T#2S,A

SR A,T57

(
A T57
O M7.4
)
A I0.6
AN M7.5
AN I0.7
=
L W T#2S,A
SR A,T58

(
A T58
O M7.5
)
A I0.6
AN M7.6
AN I0.7
=
L W T#2S,A
SR A,T59

(
A T59
O M7.6
)
A I0.6
AN M7.7
AN I0.7
=
L W T#2S,A
SR A,T60

(
A T60
O M7.7
)
A I0.6
AN M8.0
AN I0.7
=
L W T#2S,A

SR A,T61

(
A T61
O M8.0
)
A I0.6
AN M3.1
AN I0.7
= M8.0
L W T#2S,A
SR A,T62

(
A M6.5
O M7.3
O M8.1
)
A I0.6
AN T55
AN T61
AN I0.7
= M8.1

(
A I0.0
O M8.2
)
A I0.5
AN I0.7
A I0.6
AN M8.3
= M8.2
L W T#2S,A
SR A,T63

(
A T63
O M8.3
)

A		I0.6
AN		M8.4
AN		I0.7
=		M8.3
L	W	T#2S,A
SR		A,T64

(
A		T64
O		M8.4
)		
A		I0.6
AN		M8.5
AN		I0.7
=		M8.4
L	W	T#2S,A
SR		A,T65

(
A		T65
O		M8.5
)		
A		I0.6
AN		M8.6
AN		I0.7
=		M8.5
L	W	T#2S,A
SR		A,T66

(
A		T66
O		M8.6
)		
A		I0.6
AN		M8.7
AN		I0.7
=		M8.6
L	W	T#2S,A
SR		A,T67

(
A		T67
O		M8.7
)		

A		I0.6
AN		M9.0
AN		I0.7
=		M8.7
L	W	T#2S,A
SR		A,T68

(
A		T68
O		M9.0
)		
A		I0.6
AN		T69
AN		I0.7
=		M9.0
L	W	T#2S,A
SR		A,T69

(
A		I0.1
O		M9.1
)		
A		I0.5
AN		I0.7
A		I0.6
AN		M9.2
=		M9.1
L	W	T#2S,A
SR		A,T70

(
A		T70
O		M9.2
)		
A		I0.6
AN		M9.3
AN		I0.7
=		M9.2
L	W	T#2S,A
SR		A,T71

(
A T71
O M9.3
)
A I0.6
AN M9.4
AN I0.7
=
L W T#2S,A
SR A,T72

(
A T72
O M9.4
)
A I0.6
AN M9.5
AN I0.7
=
L W T#2S,A
SR A,T73

(
A T73
O M9.5
)
A I0.6
AN T74
AN I0.7
=
L W T#2S,A
SR A,T74

(
A I0.2
O M9.6
)
A I0.5
AN I0.7

A		I0.6
AN		M9.7
=		M9.6
L	W	T#2S,A
SR		A,T75

(
A		T75
O		M9.7
)		
A		I0.6
AN		M10.0
AN		I0.7
=		M9.7
L	W	T#2S,A
SR		A,T76

(
A		T76
O		M10.0
)		
A		I0.6
AN		M10.1
AN		I0.7
=		M10.0
L	W	T#2S,A
SR		A,T77

(
A		T77
O		M10.1
)		
A		I0.6
AN		M10.2
AN		I0.7
=		M10.1
L	W	T#2S,A
SR		A,T78

(
A		T78
O		M10.2

)
A I0.6
AN M21.0
AN I0.7
= M10.2
L W T#2S,A
SR A,T79

(
A T79
O M21.0
)
A I0.6
AN T100
AN I0.7
= M21.0
L W T#2S,A
SR A,T100

(
A M9.6
O M10.3
)
A I0.6
AN T79
AN I0.7
= M10.3

(
A I0.3
O M10.4
)
A I0.5
AN I0.7
A I0.6
AN M10.5
= M10.4
L W T#2S,A
SR A,T80

(

A		T80
O		M10.5
)		
A		I0.6
AN		M10.6
AN		I0.7
=		M10.5
L	W	T#2S,A
SR		A,T81

(
A		T81
O		M10.6
)		
A		I0.6
AN		M10.7
AN		I0.7
=		M10.6
L	W	T#2S,A
SR		A,T82

(
A		T82
O		M10.7
)		
A		I0.6
AN		M11.0
AN		I0.7
=		M10.7
L	W	T#2S,A
SR		A,T83

(
A		T83
O		M11.0
)		
A		I0.6
AN		M11.1
AN		I0.7
=		M11.0
L	W	T#2S,A
SR		A,T84

(
A T84
O M11.1
)
A I0.6
AN M11.2
AN I0.7
=
L W T#2S,A
SR A,T85

(
A T85
O M11.2
)
A I0.6
AN M11.3
AN I0.7
=
L W T#2S,A
SR A,T86

(
A T86
O M11.3
)
A I0.6
AN T87
AN I0.7
=
L W T#2S,A
SR A,T87

(
A M10.4
O M11.4
)
A I0.6
AN T86
AN I0.7

= M11.4

(
A I0.4
O M11.5
)
A I0.5
AN I0.7
A I0.6
AN M11.6
= M11.5
L W T#2S,A
SR A,T88

(
A T88
O M11.6
)
A I0.6
AN M11.7
AN I0.7
= M11.6
L W T#2S,A
SR A,T89

(
A T89
O M11.7
)
A I0.6
AN M12.0
AN I0.7
= M11.7
L W T#2S,A
SR A,T90

(
A T90
O M12.0
)

A I0.6
AN M12.1
AN I0.7
= M12.0
L W T#2S,A
SR A,T91

(
A T91
O M12.1
)
A I0.6
AN M12.2
AN I0.7
= M12.1
L W T#2S,A
SR A,T92

(
A T92
O M12.2
)
A I0.6
AN T93
AN I0.7
= M12.2
L W T#2S,A
SR A,T93

(
A M11.5
O M12.3
)
A I0.6
AN T92
AN I0.7
= M12.3

(

A M0.2
O M0.7
O M2.4
O M4.7
O M5.7
O M7.4
O M8.2
O M9.7
O M10.5
)
AN I0.7
= Q0.2

(
A M0.3
O M1.1
O M1.7
O M2.5
O M5.1
O M6.0
O M6.7
O M7.5
O M8.4
)
AN I0.7
= M20.5

(
A M9.2
O M10.7
O M10.0
O M11.7
)
= M20.6

(
A M20.5
O M20.6
)
= Q0.5

(
A M0.4
O M1.2
O M2.0
O M2.6
O M5.2
O M6.1
O M7.0
O M7.6
O M8.5
)
AN I0.7
= M20.3

(
A M9.3
O M10.1
O M11.0
O M12.0
)
= M20.4

(
A M20.4
O M20.3
O M22.0
)
= Q0.4

(
A M1.0
O M1.6
O M5.0
O M6.6
O M8.3

O	M9.1
O	M10.6
O	M11.6
)	
AN	I0.7
=	Q0.0

(
A	M1.3
O	M2.1
O	M5.3
O	M7.1
O	M8.6
O	M9.4
O	M11.1
O	M12.1
O	M22.1
)	
AN	I0.7
=	Q0.1

(
A	M0.5
O	M1.4
O	M2.7
O	M5.4
O	M6.2
O	M7.7
O	M8.7
O	M10.2
O	M11.2
O	M22.2
)	
AN	I0.7
=	Q0.3

A	M0.6
O	M1.5
O	M2.2
O	M3.0
O	M3.1
O	M3.3
O	M3.5
O	M3.7

O M4.1
O M5.5
= M20.0

A M6.3
O M7.2
O M8.0
O M9.0
O M9.0
O M9.5
O M12.5
O M11.3
O M12.2
O M21.0
= M20.1

(
A M20.0
O M20.1
)
AN I0.7
= Q0.6

(
A M12.4
O M6.4
O M8.1
O M10.3
O M11.4
O M12.3
)
AN I0.7
= Q0.7

(
A I0.7
O M22.0
)
AN M22.1
A I0.6
= M22.0
L W T#2S,A
SR A,T101

(
A T101
O M22.1
)
AN M22.2
A I0.6
=
L W T#2S,A
SR A,T102

(
A T102
O M22.2
)
AN T103
A I0.6
=
L W T#2S,A
SR A,T103

EM