1. Write a program that **creates an array** with 100 elements.

(5 marks)

2. Each element in the array must be **initialised** with a random value in the range 1 – 50. However, you must ensure that only ODD numbers are stored at ODD indexes in the array and that EVEN numbers are stored at EVEN indexes (including 0) in the array.

(**35 marks)**

3. You must then **print** (neatly) the array in rows of 5 elements.

(5 marks)

4. **Determine and output** the sum of all the EVEN and ODD numbers in the array.

(15 marks)

5. You must then **add each value in the array to the value that follows it** (succeeds it) in the array. The last value in the array (which has no succeeding value) must be added to the first value in the (original) array.

(35 marks)

6. You must then **print** the arrays contents (neatly) again in rows of 5 elements.

(5 marks)

The output for the program should look something like the following (next page)

```
Orginal Array
46      13      12      5       24
35      12      39      34      43
40      37      2       19      4
19      50      1       46      13
16      3       22      47      24
31      36      49      16      19
18      19      30      47      10
15      48      9       26      45
14      29      4       39      2
1       30      15      44      5
48      47      30      11      20
45      36      23      18      9
44      39      14      43      48
43      8       33      10      19
24      23      20      13      34
45      28      13      16      45
32      23      40      27      30
29      30      13      16      33
4       19      34      5       36
43      38      7       20      21

Sum total of ODD numbers in the array is 1268
Sum total of EVEN numbers in the array is 1288


Modified Array
59      25      17      29      59
47      51      73      77      83
77      39      21      23      23
69      51      47      59      29
19      25      69      71      55
67      85      65      35      37
37      49      77      57      25
63      57      35      71      59
43      33      43      41      3
31      45      59      49      53
95      77      41      31      65
81      59      41      27      53
83      53      57      91      91
51      41      43      29      43
47      43      33      47      79
73      41      29      61      77
55      63      67      57      59
59      43      29      49      37
23      53      39      41      79
81      45      27      41      67
BUILD SUCCESSFUL (total time: 0 seconds)
```