

## Activity 2: Elements of Programming (Part 2)

1. Use and adapt the code [PowersOfTwo.java](#), to print the first 50 powers of  $2^N$ . Include your code as well as the output result.

```
public static void E1() {  
    // read in one command-line argument  
    long N = Long.parseLong("50");  
  
    int i = 0;           // count from 0 to N  
    long powerOfTwo = 1; // the ith power of two  
  
    // repeat until i equals N  
    while (i <= N) {  
        System.out.println(i + " " + powerOfTwo); // print out the power  
of two  
        powerOfTwo = 2 * powerOfTwo;           // double to get the  
next one  
        i = i + 1;  
    }  
}
```

```
2. 0 1  
3. 1 2  
4. 2 4  
5. 3 8  
6. 4 16  
7. 5 32  
8. 6 64  
9. 7 128  
10. 8 256  
11. 9 512  
12. 10 1024  
13. 11 2048  
14. 12 4096  
15. 13 8192  
16. 14 16384  
17. 15 32768  
18. 16 65536  
19. 17 131072  
20. 18 262144  
21. 19 524288  
22. 20 1048576  
23. 21 2097152  
24. 22 4194304  
25. 23 8388608  
26. 24 16777216
```

27. 25 33554432  
28. 26 67108864  
29. 27 134217728  
30. 28 268435456  
31. 29 536870912  
32. 30 1073741824  
33. 31 2147483648  
34. 32 4294967296  
35. 33 8589934592  
36. 34 17179869184  
37. 35 34359738368  
38. 36 68719476736  
39. 37 137438953472  
40. 38 274877906944  
41. 39 549755813888  
42. 40 1099511627776  
43. 41 2199023255552  
44. 42 4398046511104  
45. 43 8796093022208  
46. 44 17592186044416  
47. 45 35184372088832  
48. 46 70368744177664  
49. 47 140737488355328  
50. 48 281474976710656  
51. 49 562949953421312  
52. 50 1125899906842624