




A Magic Trick using Binary Numbers

<p> 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99 </p> <p>Computer Science</p>	<p> 2 3 6 7 10 11 14 15 18 19 22 23 26 27 30 31 34 35 38 39 42 43 46 47 50 51 54 55 58 59 62 63 66 67 70 71 74 75 78 79 82 83 86 87 90 91 94 95 98 99 </p> <p>Magic trick</p>	<p> 4 5 6 7 12 13 14 15 20 21 22 23 28 29 30 31 36 37 38 39 44 45 46 47 52 53 54 55 60 61 62 63 68 69 70 71 76 77 78 79 84 85 86 87 92 93 94 95 100 </p> 
<p> 8 9 10 11 12 13 14 15 24 25 26 27 28 29 30 31 40 41 42 43 44 45 46 47 56 57 58 59 60 61 62 63 72 73 74 75 76 77 78 79 88 89 90 91 92 93 94 95 </p> <p>Computer Science</p>	<p> 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 </p> <p>Magic trick</p>	<p> 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 96 97 98 99 100 </p> 
<p> 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 </p> 	<p>Instructions</p> <ul style="list-style-type: none"> • Cut out the 7 cards. • Ask the user to think of a number from 1 to 100. • Show each card and say, "Is your number on this card?" • Add together the first number on each card where the number appears. • The total is the number. 	

How does it work? This based on binary numbers: all of the numbers that have a 1 in the ones place are on the "1" card. All of the numbers that have a 1 in the twos place are on the "2" card, etc. For instance the number 23 is 10111 in binary. The number 23 appears on the 1, 2, 4, and 16 cards.

64 32 16 8 4 2 1
0 0 1 0 1 1 1