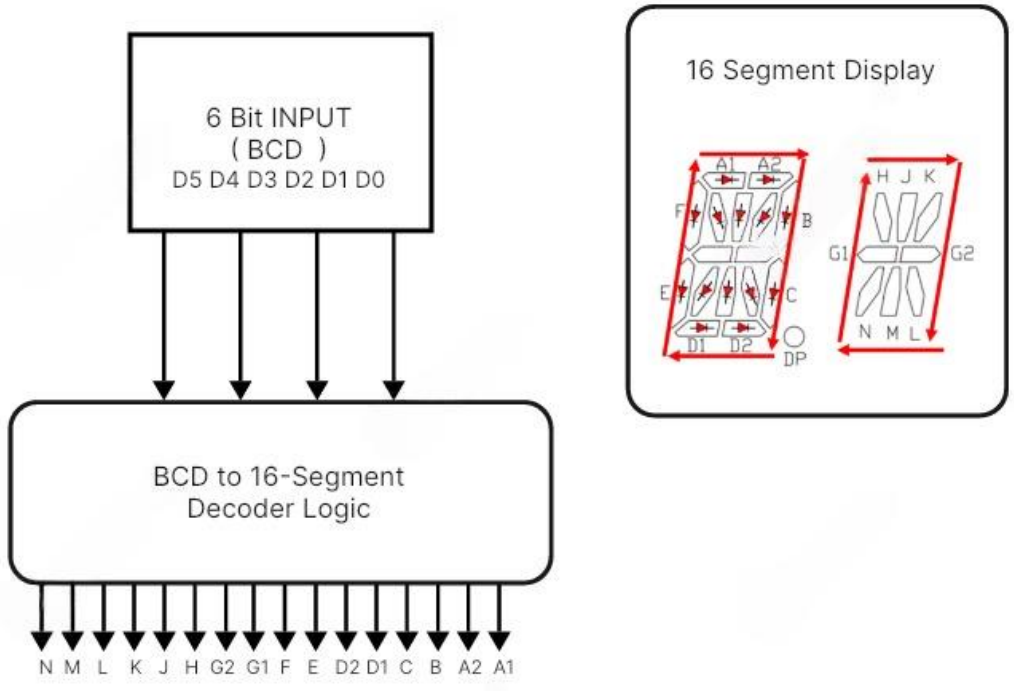
BLOCK DAIGRAM



TRUTH TABLE FOR BCD TO 16-SEGMENT DECODER

Uppercase Alphabets

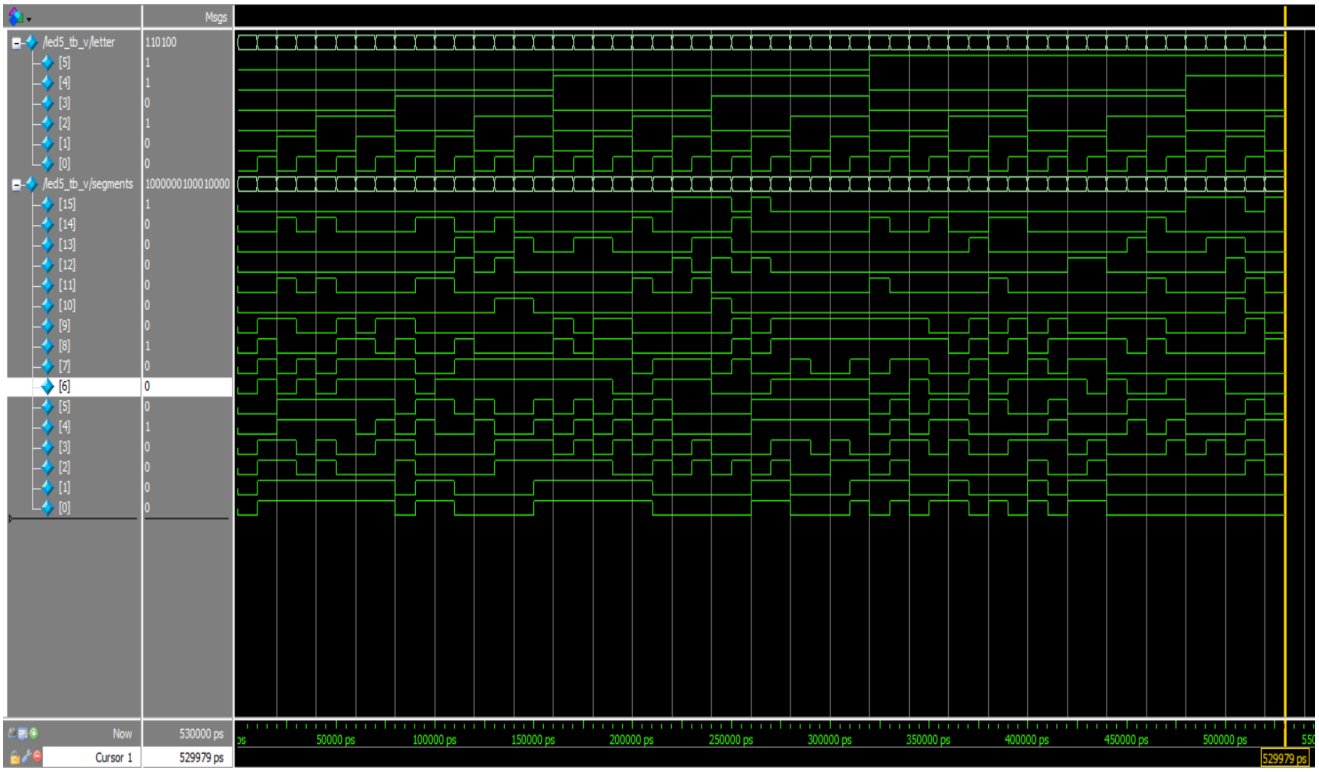
Binary (6-bit)	Character	Segments (16-bit)
000010	A	0000_0011_1100_1111
000011	B	0100_1010_0011_1111
000100	C	0000_0000_1111_0011
000101	D	0100_1000_0011_1111
000110	E	0000_0011_1111_0011
000111	F	0000_0001_1110_0011
001000	G	0000_0010_1111_1011
001001	H	0000_0011_1100_1100
001010	I	0100_1000_0011_0011
001011	J	0100_1000_0110_0011
001100	K	0011_0001_1100_0000
001101	L	0000_0000_1111_0000
001110	M	0101_0100_1100_1100
001111	N	0010_0100_1100_1100
010000	O	0000_0000_1111_1111
010001	P	0000_0011_1100_0111

010010	Q	0010_0000_1111_1111
010011	R	0010_0011_1100_0111
010100	S	0000_0011_1011_1011
010101	T	0100_1000_0000_0011
010110	U	0000_0000_1111_1100
010111	V	1001_0000_1100_0000
011000	W	1010_1000_1100_1100
011001	X	1011_0100_0000_0000
011010	Y	0100_0011_1000_0100
011011	Z	1001_0000_0011_0011

Lowercase Alphabets

100000	a	0000_0011_0111_1111
100001	b	0000_0011_1111_1000
100010	c	0000_0011_0111_0000
100011	d	0000_0011_0111_1100
100100	e	0000_0011_1111_0111
100101	f	0100_1011_0000_0010
100110	g	0000_0011_1011_1111
100111	h	0000_0011_1100_1000
101000	i	0100_0001_0011_0001
101001	j	0000_0000_0011_1011
101010	k	0010_0011_1100_0000
101011	l	0100_1000_0010_0001
101100	m	0100_0011_0100_1000
101101	n	0000_0000_1100_1111
101110	o	0000_0011_0111_1000
101111	p	0001_0001_1100_0011
110000	q	0001_0001_1000_1111
110001	r	0000_0011_0100_0000
110010	s	0010_0010_0011_0000
110011	t	0100_1011_0010_0000
110100	u	0000_0000_0111_1000
110101	v	1000_0000_0100_0000
110110	w	1010_0000_0100_1000
110111	x	1011_0100_0000_0000
111000	y	0000_1010_0011_1100
111001	z	1000_0001_0001_0000

RESULT



CONCLUSION

The 7-segment LED driver using Verilog project demonstrated how digital circuits can interface with visual display hardware. This project served as an excellent introduction to Verilog programming and hardware description languages (HDL) in general, providing a foundation for more complex digital design projects in the future. Through this project, we gained hands-on experience with combinational logic design, simulation, and real-world hardware interfacing, which are essential skills in the field of VLSI and digital electronics.