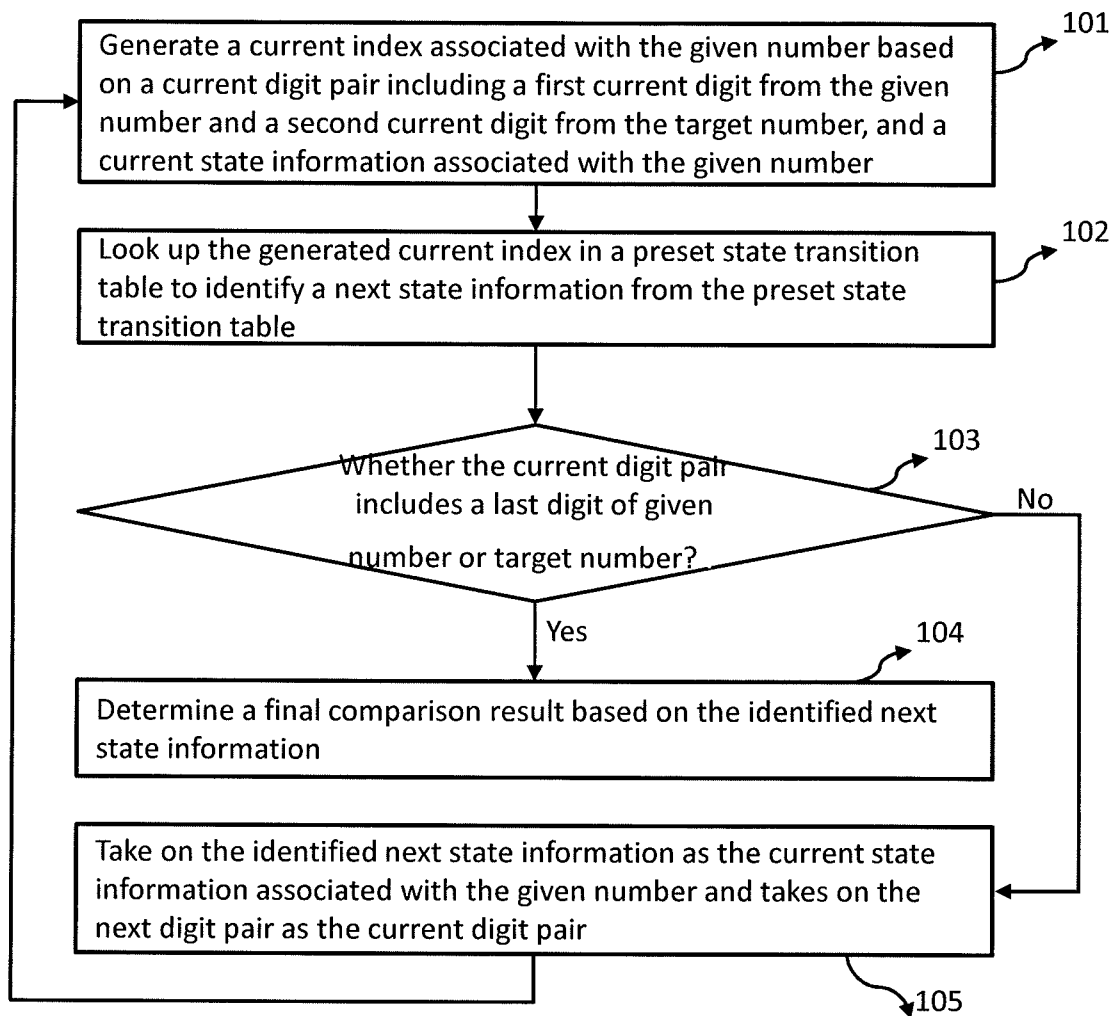


**Figure 1**

Review token	State
Before seeing any pair	The current state is “initial” state.
After seeing (1,1)	Input number is “possibly equal” to target number, then the current state is changed to “possibly equal”.
After seeing (2,4)	Since the current state is “possibly equal” state, it is inferred that the next state should be “possibly greater” state. It is still not sure since the input number still may be lengthwise smaller than the target number.
After seeing (3,3)	Since the current state is “possibly greater” state, it is inferred that the next state remains in the same state.
After seeing (4,9)	Since the current state is “possibly greater” state and so far that same number of digits have been encountered in both numbers, it is inferred that the next state remains in the same state.
On encountering end of strings on both numbers	A final comparison result is formed based on the “possibly greater” state. The final comparison result is “greater” state, meaning that the input number 1439 is greater than the target number 1234.

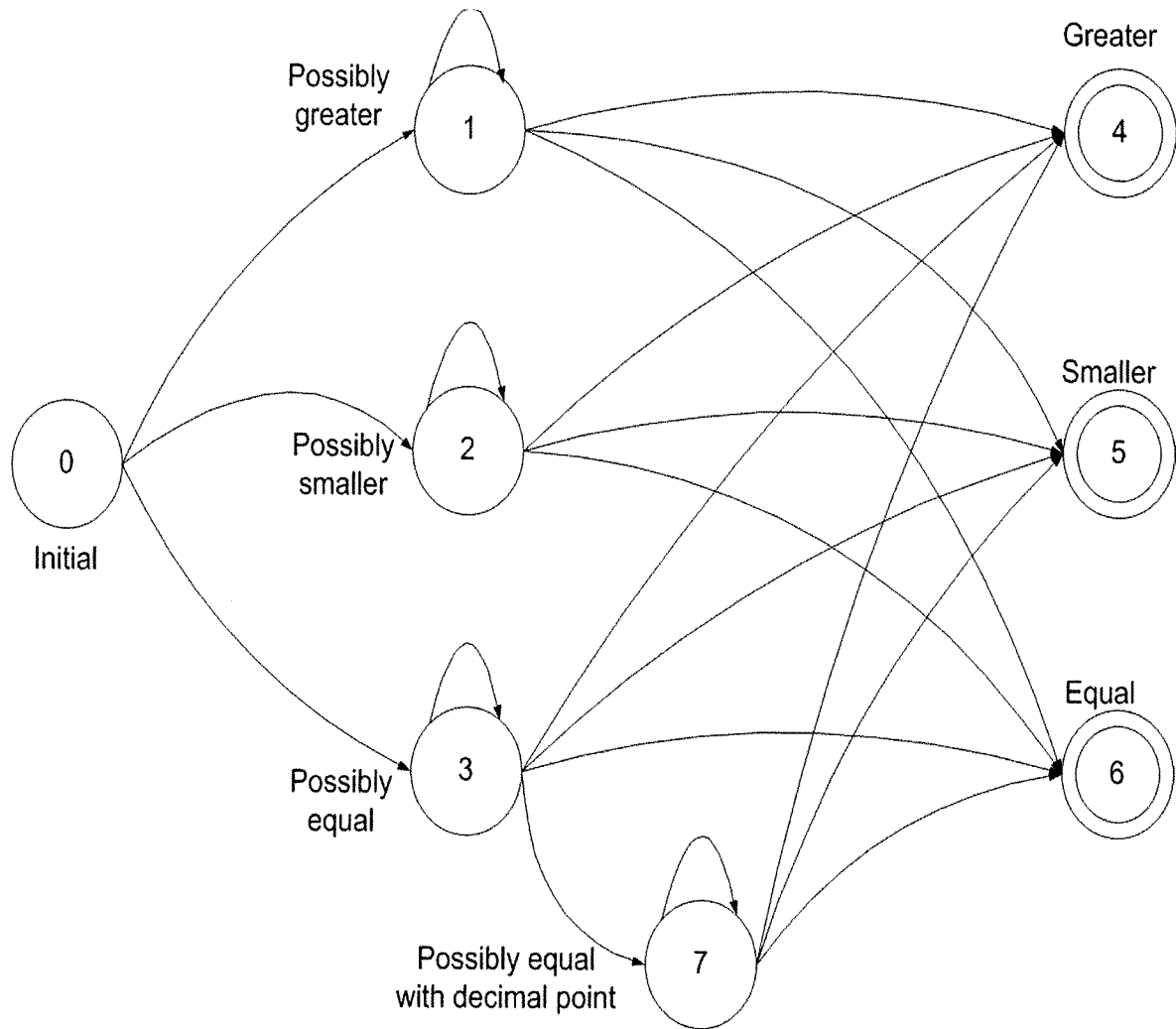
Figure 2

Review token	State
Before seeing any pair	The current state is "initial" state.
After seeing (0,1)	Since the current state is "initial" state and "0" is encountered in one of the two numbers, this "0" digit will be skipped and stay in "initial" state. The pointer of input number will be moved back on digit, i.e. instead of moving to digit "2" in input number, the next digit will be (1,1). For target number, one digit is moved as usual and consider "1" as the next digit.
After seeing (1,1)	The current state moves to "possibly equal" state.
After seeing (2,2)	The current state remains in "possibly equal" state.
After seeing (3,3)	The current state remains in "possibly equal" state.
After seeing (4,5)	The current state remains in "possibly greater" state.
On encountering end of strings on both numbers	The current state moves to "greater" state, meaning that input number 1235 is greater than target number 01234.

Figure 3

Review token	State
Before seeing any pair	The current state is “initial” state.
After seeing (1,1)	The current state moves to “possibly equal” state.
After seeing (2,2)	The current state remains in “possibly equal” state.
After seeing (3,.(dot))	The final comparison result is “smaller” state since a decimal point is encountered in input number while a normal digit is encountered in target number. The comparison may be stopped at this stage. However, the comparison process may proceed to traverse rest of the digits in both the numbers to ensure that these indeed are valid numbers, meaning that these do not contain any character other than 0-9, dot (.) etc.

Figure 4

**Figure 5**

Bit positions											
12	11	10	9	8	7	6	5	4	3	2	1
← State →				← Target digit →				← Input digit →			

Figure 6

State	State type	Encoded value
Initial	Initial	0
Possibly greater	Intermediate	1
Possibly smaller	Intermediate	2
Possibly equal	Intermediate	3
Possibly equal with decimal place indicator	Intermediate	7
Greater	Final	4
Smaller	Final	5
Equal	Final	6

Figure 7

Digit	Encoded value (4 bits)
0	0x00
1	0x01
2	0x02
3	0x03
4	0x04
5	0x05
6	0x06
7	0x07
8	0x08
9	0x09
Decimal place indicator/Decimal point (dot)	0x0A
Unused	0x0B
Unused	0x0C
Unused	0x0D
Thousand separator	0x0E
Space character	0x0F

Figure 8

Bit positions							
8	7	6	5	4	3	2	1
Move indicator for target number	Move indicator for input number	Unused	Unused	← State →			

Figure 9

Index	Result byte	Index	Result byte	Index	Result byte
0x000	0x00	0x001	0x01	0x002	0x01
0x003	0x01	0x004	0x01	0x005	0x01
0x006	0x01	0x007	0x01	0x008	0x01
0x009	0x01				
0x010	0x80	0x011	0x03	0x012	0x01
0x013	0x01	0x014	0x01	0x015	0x01
0x016	0x01	0x017	0x01	0x018	0x01
0x019	0x01				
0x020	0x80	0x021	0x02	0x022	0x03
0x023	0x01	0x024	0x01	0x025	0x01
0x026	0x01	0x027	0x01	0x028	0x01
0x029	0x01				
0x030	0x80	0x031	0x02	0x032	0x02

Figure 10

Index	Result byte	Index	Result byte	Index	Result byte
0x033	0x03	0x034	0x01	0x035	0x01
0x036	0x01	0x037	0x01	0x038	0x01
0x039	0x01				
0x040	0x80	0x041	0x02	0x042	0x02
0x043	0x02	0x044	0x03	0x045	0x01
0x046	0x01	0x047	0x01	0x048	0x01
0x049	0x01				
0x050	0x80	0x051	0x02	0x052	0x02
0x053	0x02	0x054	0x02	0x055	0x3
0x056	0x01	0x057	0x01	0x058	0x01
0x059	0x01				
0x060	0x80	0x061	0x02	0x062	0x02
0x063	0x02	0x064	0x02	0x065	0x02
0x066	0x03	0x067	0x01	0x068	0x01
0x069	0x01				
0x070	0x80	0x071	0x02	0x072	0x02
0x073	0x02	0x074	0x02	0x075	0x02
0x076	0x02	0x077	0x03	0x078	0x01
0x079	0x01				
0x080	0x80	0x081	0x02	0x082	0x02
0x083	0x02	0x084	0x02	0x085	0x02
0x086	0x02	0x087	0x02	0x088	0x03
0x089	0x01				
0x090	0x80	0x091	0x02	0x092	0x02
0x093	0x02	0x094	0x02	0x095	0x02
0x096	0x02	0x097	0x02	0x098	0x02
0x099	0x03				
0x0F0	0x80	0x0F1	0x04	0x0F2	0x04
0x0F3	0x04	0x0F4	0x04	0x0F5	0x04
0x0F6	0x04	0x0F7	0x04	0x0F8	0x04
0x0F9	0x04				

Figure 10 (continued)

Index	Result byte	Index	Result byte	Index	Result byte
0x00F	0x40	0x01F	0x05	0x02F	0x05
0x03F	0x05	0x04F	0x05	0x05F	0x05
0x06F	0x05	0x07F	0x05	0x08F	0x05
0x09F	0x05				
0x0FF	0x06				
0x300	0x03	0x301	0x01	0x302	0x01
0x303	0x01	0x304	0x01	0x305	0x01
0x306	0x01	0x307	0x01	0x308	0x01
0x309	0x01				
0x310	0x02	0x311	0x03	0x312	0x01
0x313	0x01	0x314	0x01	0x315	0x01
0x316	0x01	0x317	0x01	0x318	0x01
0x319	0x01				
0x320	0x02	0x321	0x02	0x322	0x03
0x323	0x01	0x324	0x01	0x325	0x01
0x326	0x01	0x327	0x01	0x328	0x01
0x329	0x01				
0x330	0x02	0x331	0x02	0x332	0x02
0x333	0x03	0x334	0x01	0x335	0x01
0x336	0x01	0x337	0x01	0x338	0x01
0x339	0x01				
0x340	0x02	0x341	0x02	0x342	0x02
0x343	0x02	0x344	0x03	0x345	0x01
0x346	0x01	0x347	0x01	0x348	0x01
0x349	0x01				
0x350	0x02	0x351	0x02	0x352	0x02
0x353	0x02	0x354	0x02	0x355	0x03
0x356	0x01	0x357	0x01	0x358	0x01
0x359	0x01				
0x360	0x02	0x361	0x02	0x362	0x02
0x363	0x02	0x364	0x02	0x365	0x02
0x366	0x03	0x367	0x01	0x368	0x01
0x369	0x01				

Figure 10 (continued)

Index	Result byte	Index	Result byte	Index	Result byte
0x370	0x02	0x371	0x02	0x372	0x02
0x373	0x02	0x374	0x02	0x375	0x02
0x376	0x02	0x377	0x03	0x378	0x01
0x379	0x01				
0x380	0x02	0x381	0x02	0x382	0x02
0x383	0x02	0x384	0x02	0x385	0x02
0x386	0x02	0x387	0x02	0x388	0x03
0x389	0x01				
0x390	0x02	0x391	0x02	0x392	0x02
0x393	0x02	0x394	0x02	0x395	0x02
0x396	0x02	0x397	0x02	0x398	0x02
0x399	0x03				
0x3F0	0x04	0x3F1	0x04	0x3F2	0x04
0x3F3	0x04	0x3F4	0x04	0x3F5	0x04
0x3F6	0x04	0x3F7	0x04	0x3F8	0x04
0x3F9	0x04				
0x30F	0x05	0x31F	0x05	0x32F	0x05
0x33F	0x05	0x34F	0x05	0x35F	0x05
0x36F	0x05	0x37F	0x05	0x38F	0x05
0x39F	0x05				
0x3FF	0x06				
0x30E	0x83	0x31E	0x83	0x32E	0x83
0x33E	0x83	0x34E	0x83	0x35E	0x83
0x36E	0x83	0x37E	0x83	0x38E	0x83
0x39E	0x83	0x3FE	0x83		
0x3E0	0x43	0x3E1	0x43	0x3E2	0x43
0x3E3	0x43	0x3E4	0x43	0x3E5	0x43
0x3E6	0x43	0x3E7	0x43	0x3E8	0x43
0x3E9	0x43	0x3EF	0x43		
0x3A0	0x04	0x3A1	0x04	0x3A2	0x04
0x3A3	0x04	0x3A4	0x04	0x3A5	0x04
0x3A6	0x04	0x3A7	0x04	0x3A8	0x04
0x3A9	0x04				

Figure 10 (continued)

Index	Result byte	Index	Result byte	Index	Result byte
0x30A	0x05	0x31A	0x05	0x32A	0x05
0x33A	0x05	0x34A	0x05	0x35A	0x05
0x36A	0x05	0x37A	0x05	0x38A	0x05
0x39A	0x05				
0x3AF	0x47	0x3FA	0x87	0x3AA	7
0x100	0x01	0x101	0x01	0x102	0x01
0x103	0x01	0x104	0x01	0x105	0x01
0x106	0x01	0x107	0x01	0x108	0x01
0x109	0x01				
0x110	0x01	0x111	0x01	0x112	0x01
0x113	0x01	0x114	0x01	0x115	0x01
0x116	0x01	0x117	0x01	0x118	0x01
0x119	0x01				
0x120	0x01	0x121	0x01	0x122	0x01
0x123	0x01	0x124	0x01	0x125	0x01
0x126	0x01	0x127	0x01	0x128	0x01
0x129	0x01				
0x130	0x01	0x131	0x01	0x132	0x01
0x133	0x01	0x134	0x01	0x135	0x01
0x136	0x01	0x137	0x01	0x138	0x01
0x139	0x01				
0x140	0x01	0x141	0x01	0x142	0x01
0x143	0x01	0x144	0x01	0x145	0x01
0x146	0x01	0x147	0x01	0x148	0x01
0x149	0x01				
0x150	0x01	0x151	0x01	0x152	0x01
0x153	0x01	0x154	0x01	0x155	0x01
0x156	0x01	0x157	0x01	0x158	0x01
0x159	0x01				
0x160	0x01	0x161	0x01	0x162	0x01
0x163	0x01	0x164	0x01	0x165	0x01
0x166	0x01	0x167	0x01	0x168	0x01
0x169	0x01				
0x170	0x01	0x171	0x01	0x172	0x01
0x173	0x01	0x174	0x01	0x175	0x01
0x176	0x01	0x177	0x01	0x178	0x01
0x179	0x01				

Figure 10 (continued)

Index	Result byte	Index	Result byte	Index	Result byte
0x180	0x01	0x181	0x01	0x182	0x01
0x183	0x01	0x184	0x01	0x185	0x01
0x186	0x01	0x187	0x01	0x188	0x01
0x189	0x01				
0x190	0x01	0x191	0x01	0x192	0x01
0x193	0x01	0x194	0x01	0x195	0x01
0x196	0x01	0x197	0x01	0x198	0x01
0x199	0x01				
0x1F0	0x04	0x1F1	0x04	0x1F2	0x04
0x1F3	0x04	0x1F4	0x04	0x1F5	0x04
0x1F6	0x04	0x1F7	0x04	0x1F8	0x04
0x1F9	0x04				
0x10F	0x05	0x11F	0x05	0x12F	0x05
0x13F	0x05	0x14F	0x05	0x15F	0x05
0x16F	0x05	0x17F	0x05	0x18F	0x05
0x19F	0x05				
0x1FF	4				
0x10E	0x81	0x11E	0x81	0x12E	0x81
0x13E	0x81	0x14E	0x81	0x15E	0x81
0x16E	0x81	0x17E	0x81	0x18E	0x81
0x19E	0x81	0x1FE	0x81		
0x1E0	0x41	0x1E1	0x41	0x1E2	0x41
0x1E3	0x41	0x1E4	0x41	0x1E5	0x41
0x1E6	0x41	0x1E7	0x41	0x1E8	0x41
0x1E9	0x41	0x1EF	0x41		
0x1A0	0x04	0x1A1	0x04	0x1A2	0x04
0x1A3	0x04	0x1A4	0x04	0x1A5	0x04
0x1A6	0x04	0x1A7	0x04	0x1A8	0x04
0x1A9	0x04				
0x10A	0x05	0x11A	0x05	0x12A	0x05
0x13A	0x05	0x14A	0x05	0x15A	0x05
0x16A	0x05	0x17A	0x05	0x18A	0x05
0x19A	0x05				
0x1AA	0x04	0x1AF	0x04	0x1FA	0x04

Figure 10 (continued)

Index	Result byte	Index	Result byte	Index	Result byte
0x200	0x02	0x201	0x02	0x202	0x02
0x203	0x02	0x204	0x02	0x205	0x02
0x206	0x02	0x207	0x02	0x208	0x02
0x209	0x02				
0x210	0x02	0x211	0x02	0x212	0x02
0x213	0x02	0x214	0x02	0x215	0x02
0x216	0x02	0x217	0x02	0x218	0x02
0x219	0x02				
0x220	0x02	0x221	0x02	0x222	0x02
0x223	0x02	0x224	0x02	0x225	0x02
0x226	0x02	0x227	0x02	0x228	0x02
0x229	0x02				
0x230	0x02	0x231	0x02	0x232	0x02
0x233	0x02	0x234	0x02	0x235	0x02
0x236	0x02	0x237	0x02	0x238	0x02
0x239	0x02				
0x240	0x02	0x241	0x02	0x242	0x02
0x243	0x02	0x244	0x02	0x245	0x02
0x246	0x02	0x247	0x02	0x248	0x02
0x249	0x02				
0x250	0x02	0x251	0x02	0x252	0x02
0x253	0x02	0x254	0x02	0x255	0x02
0x256	0x02	0x257	0x02	0x258	0x02
0x259	0x02				
0x260	0x02	0x261	0x02	0x262	0x02
0x263	0x02	0x264	0x02	0x265	0x02
0x266	0x02	0x267	0x02	0x268	0x02
0x269	0x02				
0x270	0x02	0x271	0x02	0x272	0x02
0x273	0x02	0x274	0x02	0x275	0x02
0x276	0x02	0x277	0x02	0x278	0x02
0x279	0x02				
0x280	0x02	0x281	0x02	0x282	0x02
0x283	0x02	0x284	0x02	0x285	0x02
0x286	0x02	0x287	0x02	0x288	0x02
0x289	0x02				

Figure 10 (continued)

Index	Result byte	Index	Result byte	Index	Result byte
0x290	0x02	0x291	0x02	0x292	0x02
0x293	0x02	0x294	0x02	0x295	0x02
0x296	0x02	0x297	0x02	0x298	0x02
0x299	0x02				
0x2F0	0x04	0x2F1	0x04	0x2F2	0x04
0x2F3	0x04	0x2F4	0x04	0x2F5	0x04
0x2F6	0x04	0x2F7	0x04	0x2F8	0x04
0x2F9	0x04				
0x20F	0x05	0x21F	0x05	0x22F	0x05
0x23F	0x05	0x24F	0x05	0x25F	0x05
0x26F	0x05	0x27F	0x05	0x28F	0x05
0x29F	0x05				
0x2FF	0x05				
0x20E	0x82	0x21E	0x82	0x22E	0x82
0x23E	0x82	0x24E	0x82	0x25E	0x82
0x26E	0x82	0x27E	0x82	0x28E	0x82
0x29E	0x82	0x2FE	0x82		
0x2E0	0x42	0x2E1	0x42	0x2E2	0x42
0x2E3	0x42	0x2E4	0x42	0x2E5	0x42
0x2E6	0x42	0x2E7	0x42	0x2E8	0x42
0x2E9	0x42	0x2EF	0x42		
0x2A0	0x04	0x2A1	0x04	0x2A2	0x04
0x2A3	0x04	0x2A4	0x04	0x2A5	0x04
0x2A6	0x04	0x2A7	0x04	0x2A8	0x04
0x2A9	0x04				
0x20A	0x05	0x21A	0x05	0x22A	0x05
0x23A	0x05	0x24A	0x05	0x25A	0x05
0x26A	0x05	0x27A	0x05	0x28A	0x05
0x29A	0x05				
0x2AA	0x05	0x2AF	0x05	0x2FA	0x05
0x700	0x07	0x701	0x04	0x702	0x04
0x703	0x04	0x704	0x04	0x705	0x04
0x706	0x04	0x707	0x04	0x708	0x04
0x709	0x04				

Figure 10(continued)

Index	Result byte	Index	Result byte	Index	Result byte
0x710	0x05	0x711	0x07	0x712	0x04
0x713	0x04	0x714	0x04	0x715	0x04
0x716	0x04	0x717	0x04	0x718	0x04
0x719	0x04				
0x720	0x05	0x721	0x05	0x722	0x07
0x723	0x04	0x724	0x04	0x725	0x04
0x726	0x04	0x727	0x04	0x728	0x04
0x729	0x04				
0x730	0x05	0x731	0x05	0x732	0x05
0x733	0x07	0x734	0x04	0x735	0x04
0x736	0x04	0x737	0x04	0x738	0x04
0x739	0x04				
0x740	0x05	0x741	0x05	0x742	0x05
0x743	0x05	0x744	0x07	0x745	0x04
0x746	0x04	0x747	0x04	0x748	0x04
0x749	0x04				
0x750	0x05	0x751	0x05	0x752	0x05
0x753	0x05	0x754	0x05	0x755	0x07
0x756	0x04	0x757	0x04	0x758	0x04
0x759	0x04				
0x760	0x05	0x761	0x05	0x762	0x05
0x763	0x05	0x764	0x05	0x765	0x05
0x766	0x07	0x767	0x04	0x768	0x04
0x769	0x04				
0x770	0x05	0x771	0x05	0x772	0x05
0x773	0x05	0x774	0x05	0x775	0x05
0x776	0x05	0x777	0x07	0x778	0x04
0x779	0x04				
0x780	0x05	0x781	0x05	0x782	0x05
0x783	0x05	0x784	0x05	0x785	0x05
0x786	0x05	0x787	0x05	0x788	0x07
0x789	0x04				

Figure 10 (continued)

Index	Result byte	Index	Result byte	Index	Result byte
0x790	0x05	0x791	0x05	0x792	0x05
0x793	0x05	0x794	0x05	0x795	0x05
0x796	0x05	0x797	0x05	0x798	0x05
0x799	0x07				
0x7F0	0x06	0x7F1	0x04	0x7F2	0x04
0x7F3	0x04	0x7F4	0x04	0x7F5	0x04
0x7F6	0x04	0x7F7	0x04	0x7F8	0x04
0x7F9	0x04				
0x70F	0x06	0x71F	0x05	0x72F	0x05
0x73F	0x05	0x74F	0x05	0x75F	0x05
0x76F	0x05	0x77F	0x05	0x78F	0x05
0x79F	0x05				
0x7FF	0x06				

Figure 10 (continued)

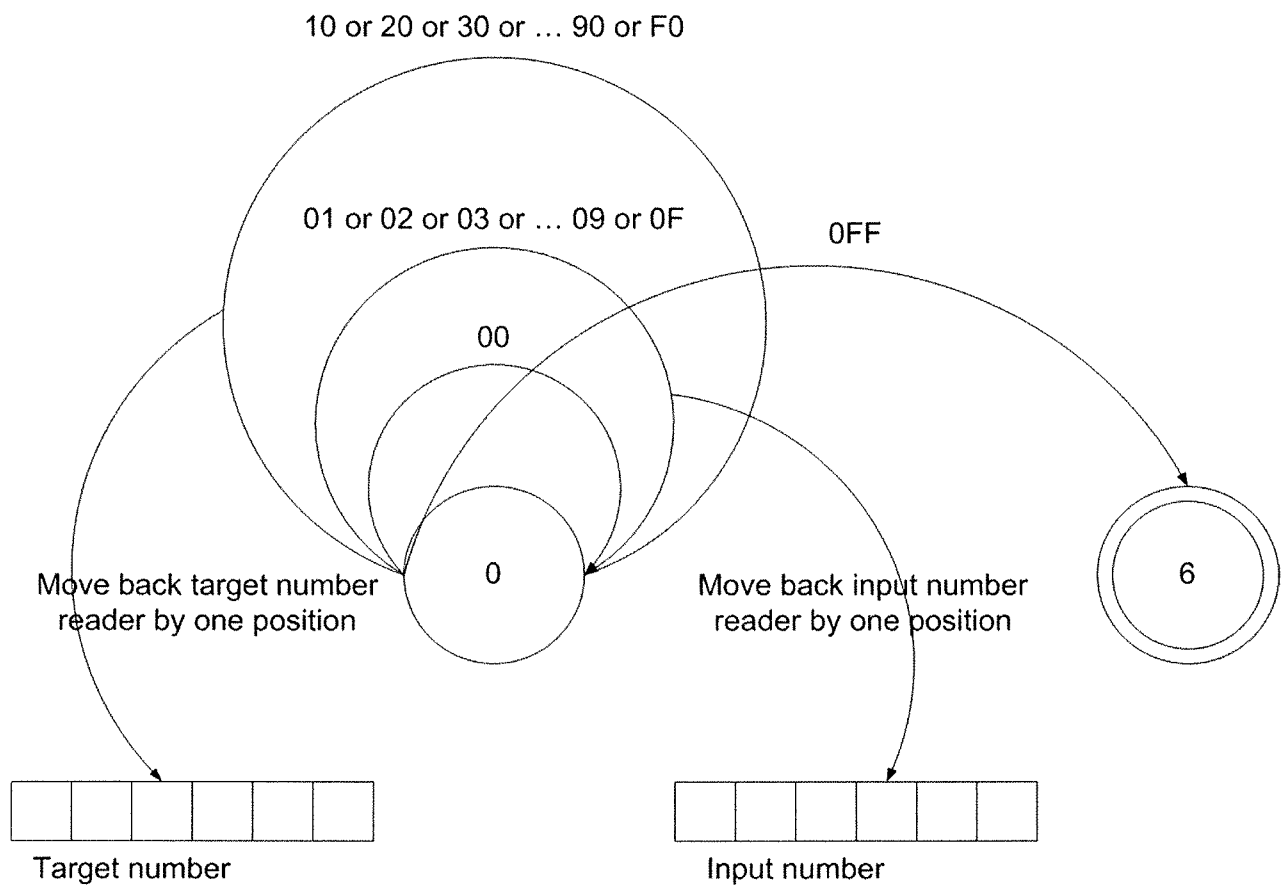
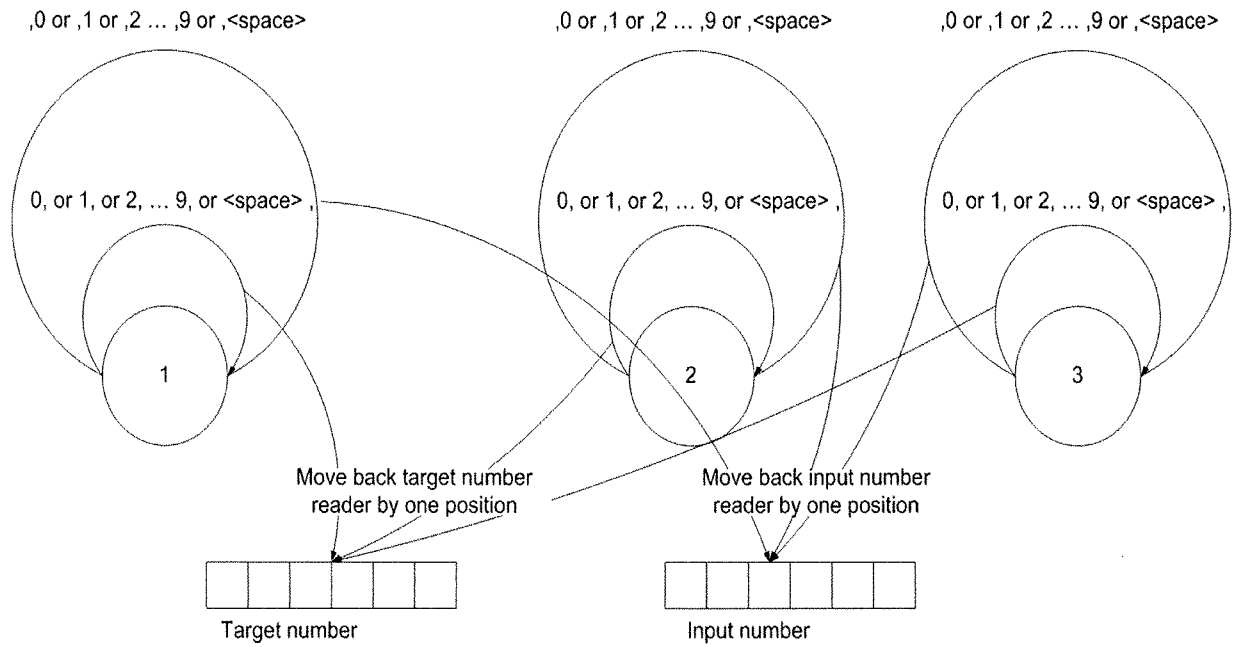


Figure 11 (a)

Handling any number of leading zeroes					
Sl. No.	Current state	Digit in target number	Digit in input number	Next state	Action
1	0	0	0	0	None
2	0	0	1	0	Move back input number reader by one position
3	0	0	2	0	Move back input number reader by one position
4	0	0	3	0	Move back input number reader by one position
5	0	0	4	0	Move back input number reader by one position
6	0	0	5	0	Move back input number reader by one position
7	0	0	6	0	Move back input number reader by one position
8	0	0	7	0	Move back input number reader by one position
9	0	0	8	0	Move back input number reader by one position
10	0	0	9	0	Move back input number reader by one position
11	0	0	A	0	Move back input number reader by one position
12	0	0	F	0	Move back input number reader by one position
13	0	1	0	0	Move back target number reader by one position
14	0	2	0	0	Move back target number reader by one position
15	0	3	0	0	Move back target number reader by one position
16	0	4	0	0	Move back target number reader by one position
17	0	5	0	0	Move back target number reader by one position
18	0	6	0	0	Move back target number reader by one position
19	0	7	0	0	Move back target number reader by one position
20	0	8	0	0	Move back target number reader by one position
21	0	9	0	0	Move back target number reader by one position
22	0	decimal place indicator	0	0	Move back target number reader by one position
23	0	Space character	0	0	Move back target number reader by one position
24	0	Space character	Space character	6	None

Figure 11 (b)

**Figure 12 (a)**

Sl. No.	Current state	Digit in target number	Digit in input number	Next state	Action
1	1	0	Comma or other thousand separator	1	Move back target number reader by one position
2	1	1	Comma	1	Move back target number reader by one position
3	1	2	Comma	1	Move back target number reader by one position
4	1	3	Comma	1	Move back target number reader by one position
5	1	4	Comma	1	Move back target number reader by one position
6	1	5	Comma	1	Move back target number reader by one position
7	1	6	Comma	1	Move back target number reader by one position
8	1	7	Comma	1	Move back target number reader by one position
9	1	8	Comma	1	Move back target number reader by one position
10	1	9	Comma	1	Move back target number reader by one position
11	1	Space character	Comma	1	Move back target number reader by one position
12	1	Comma	0	1	Move back input number reader by one position
13	1	Comma	1	1	Move back input number reader by one position
14	1	Comma	2	1	Move back input number reader by one position
15	1	Comma	3	1	Move back input number reader by one position
16	1	Comma	4	1	Move back input number reader by one position
17	1	Comma	5	1	Move back input number reader by one position
18	1	Comma	6	1	Move back input number reader by one position
19	1	Comma	7	1	Move back input number reader by one position
20	1	Comma	8	1	Move back input number reader by one position
21	1	Comma	9	1	Move back input number reader by one position
22	1	Comma	Space character	1	Move back input number reader by one position
23	2	0	Comma	2	Move back target number reader by one position
24	2	1	Comma	2	Move back target number reader by one position

Figure 12 (b)

Sl. No.	Current state	Digit in target number	Digit in input number	Next state	Action
25	2	2	Comma	2	Move back target number reader by one position
26	2	3	Comma	2	Move back target number reader by one position
27	2	4	Comma	2	Move back target number reader by one position
28	2	5	Comma	2	Move back target number reader by one position
29	2	6	Comma	2	Move back target number reader by one position
30	2	7	Comma	2	Move back target number reader by one position
31	2	8	Comma	2	Move back target number reader by one position
32	2	9	Comma	2	Move back target number reader by one position
33	2	Space character	Comma	2	Move back target number reader by one position
34	2	Comma	0	2	Move back input number reader by one position
35	2	Comma	1	2	Move back input number reader by one position
36	2	Comma	2	2	Move back input number reader by one position
37	2	Comma	3	2	Move back input number reader by one position
38	2	Comma	4	2	Move back input number reader by one position
39	2	Comma	5	2	Move back input number reader by one position
40	2	Comma	6	2	Move back input number reader by one position
41	2	Comma	7	2	Move back input number reader by one position
42	2	Comma	8	2	Move back input number reader by one position
43	2	Comma	9	2	Move back input number reader by one position
44	2	Comma	Space character	2	Move back input number reader by one position
45	3	0	Comma	3	Move back target number reader by one position
46	3	1	Comma	3	Move back target number reader by one position
47	3	2	Comma	3	Move back target number reader by one position
48	3	3	Comma	3	Move back target number reader by one position

Figure 12 (b) (continued)

Sl. No.	Current state	Digit in target number	Digit in input number	Next state	Action
49	3	4	Comma	3	Move back target number reader by one position
50	3	5	Comma	3	Move back target number reader by one position
51	3	6	Comma	3	Move back target number reader by one position
52	3	7	Comma	3	Move back target number reader by one position
53	3	8	Comma	3	Move back target number reader by one position
54	3	9	Comma	3	Move back target number reader by one position
55	3	Space character	Comma	3	Move back target number reader by one position
56	3	Comma	0	3	Move back input number reader by one position
57	3	Comma	1	3	Move back input number reader by one position
58	3	Comma	2	3	Move back input number reader by one position
59	3	Comma	3	3	Move back input number reader by one position
60	3	Comma	4	3	Move back input number reader by one position
61	3	Comma	5	3	Move back input number reader by one position
62	3	Comma	6	3	Move back input number reader by one position
63	3	Comma	7	3	Move back input number reader by one position
64	3	Comma	8	3	Move back input number reader by one position
65	3	Comma	9	3	Move back input number reader by one position
66	3	Comma	Space character	3	Move back input number reader by one position

Figure 12 (b) (continued)

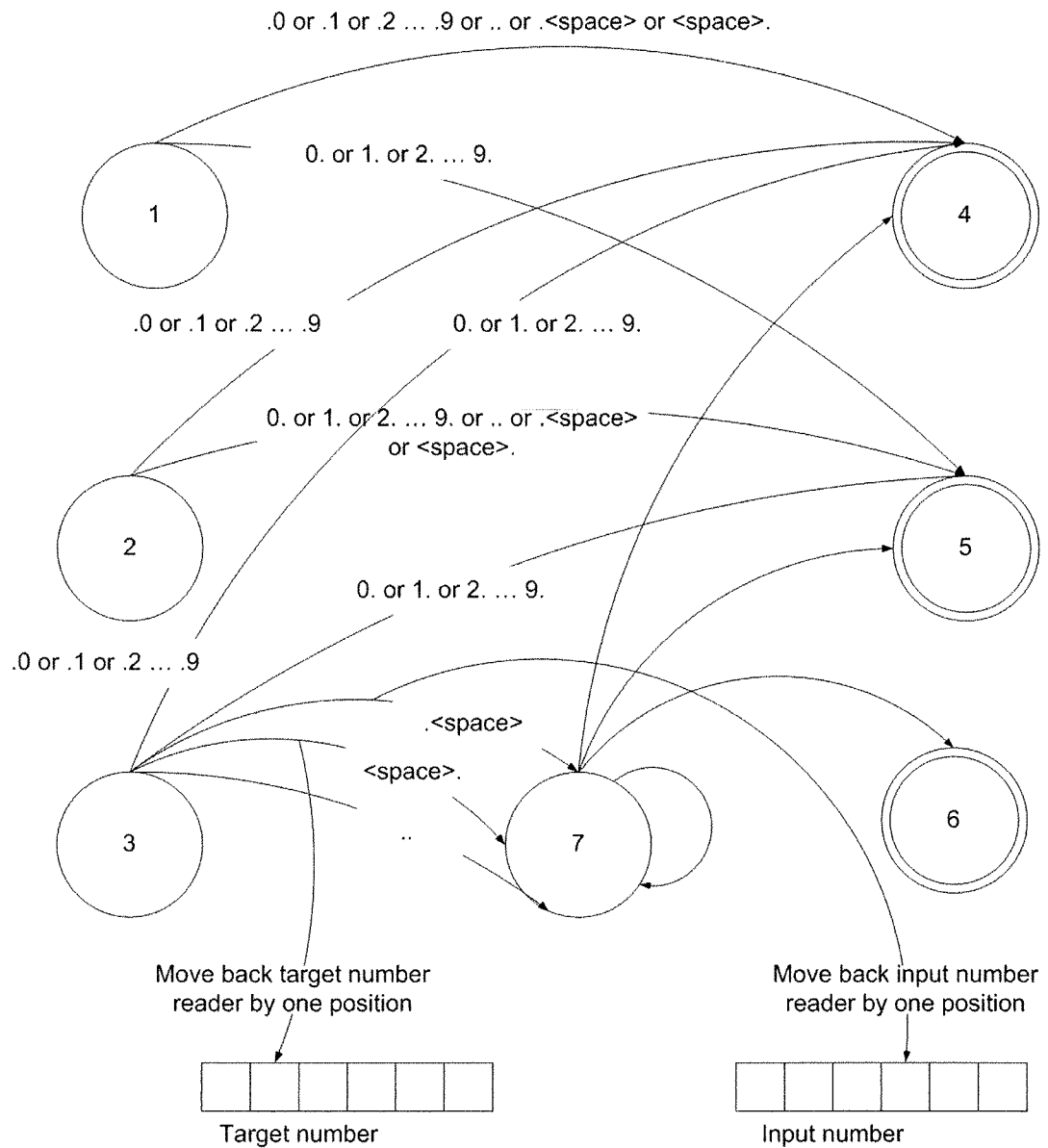


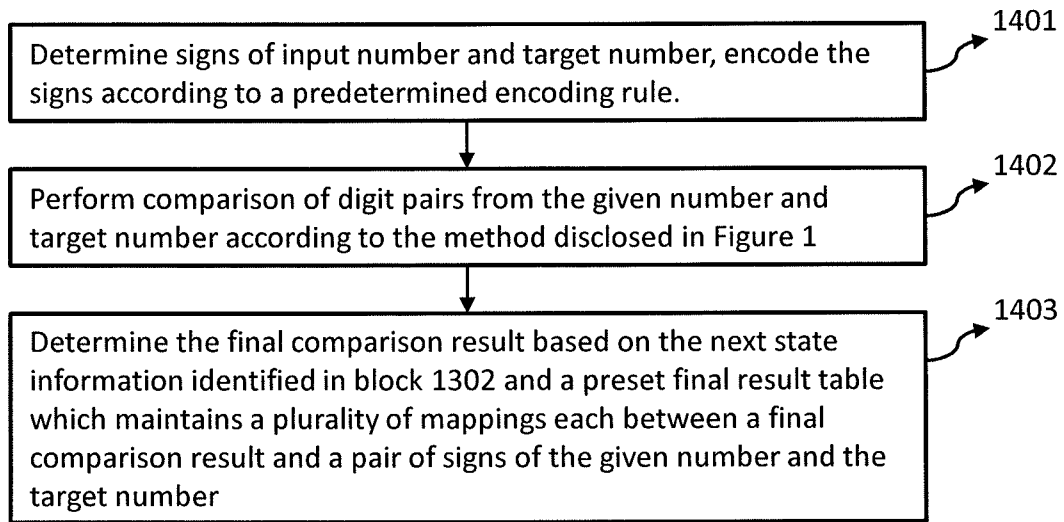
Figure 13 (a)

Handling decimal place						
Sl. No.	Current state	Digit in target number	Digit in input number	Next state	Action	
1	1	dot (decimal place indicator)	0	4	None	
2	1	dot	1	4	None	
3	1	dot	2	4	None	
4	1	dot	3	4	None	
5	1	dot	4	4	None	
6	1	dot	5	4	None	
7	1	dot	6	4	None	
8	1	dot	7	4	None	
9	1	dot	8	4	None	
10	1	dot	9	4	None	
11	1	dot	Space character	4	None	
12	1	Space character	dot	4	None	
13	1	0	dot	5	None	
14	1	1	dot	5	None	
15	1	2	dot	5	None	
16	1	3	dot	5	None	
17	1	4	dot	5	None	
18	1	5	dot	5	None	
19	1	6	dot	5	None	
20	1	7	dot	5	None	
21	1	8	dot	5	None	
22	1	9	dot	5	None	
23	2	dot	0	4	None	
24	2	dot	1	4	None	
25	2	dot	2	4	None	
26	2	dot	3	4	None	
27	2	dot	4	4	None	
28	2	dot	5	4	None	
29	2	dot	6	4	None	
30	2	dot	7	4	None	
31	2	dot	8	4	None	
32	2	dot	9	4	None	
33	2	0	dot	5	None	
34	2	1	dot	5	None	
35	2	2	dot	5	None	
36	2	3	dot	5	None	
37	2	4	dot	5	None	
38	2	5	dot	5	None	
39	2	6	dot	5	None	
40	2	7	dot	5	None	

Figure 13 (b)

Handling decimal place						
Sl. No.	Current state	Digit in target number	Digit in input number	Next state	Action	
41	2	8	dot	5	None	
42	2	9	dot	5	None	
43	2	Space character	dot	5	None	
44	2	dot	Space character	5	None	
45	3	0	dot	5	None	
46	3	1	dot	5	None	
47	3	2	dot	5	None	
48	3	3	dot	5	None	
49	3	4	dot	5	None	
50	3	5	dot	5	None	
51	3	6	dot	5	None	
52	3	7	dot	5	None	
53	3	8	dot	5	None	
54	3	9	dot	5	None	
55	3	dot	Space character	7	Move back input number reader by one position	
56	3	Space character	dot	7	Move back target number reader by one position	
57	3	dot	dot	7	None	
Note: Transitions from state 7 to end states are not shown in Figure 13(b).						

Figure 13 (b) (continued)

**Figure 14 (a)**

Target number(a)	Input number (b)	Final Result
0	1	1
1	0	0
1	1	Follow normal comparison method without considering signs of the numbers
0	0	Opposite of result of normal comparison without considering signs

Figure 14 (b)

Type of input number	Input number	Time in milliseconds for 1 million searches by traditional method	Time in milliseconds for 1 million searches by proposed method	Percentage reduction in time
Number with + and decimal	+00102010944.12	106407	52395	50.76%
Number with leading zeroes	00102010944	94579	41963	55.63%
Number with many leading zeroes	00000102010944	111358	64372	42.19%
Moderately large number	102010944	86814	42479	51.07%
Moderately large number with many digits after decimal point	102010943.12345	122387	58484	52.21%
Large number	1020109441111.12	127907	58241	54.47%
Very large number	1020109441 ... stream of 1's to build a 100 digit number	400488	133464	66.67%
Small number	102.12	79817	45919	42.47%
Small number with many digits after decimal point	102.1234567891	98837	58428	40.88%
			Average reduction	50.71%

Figure 15

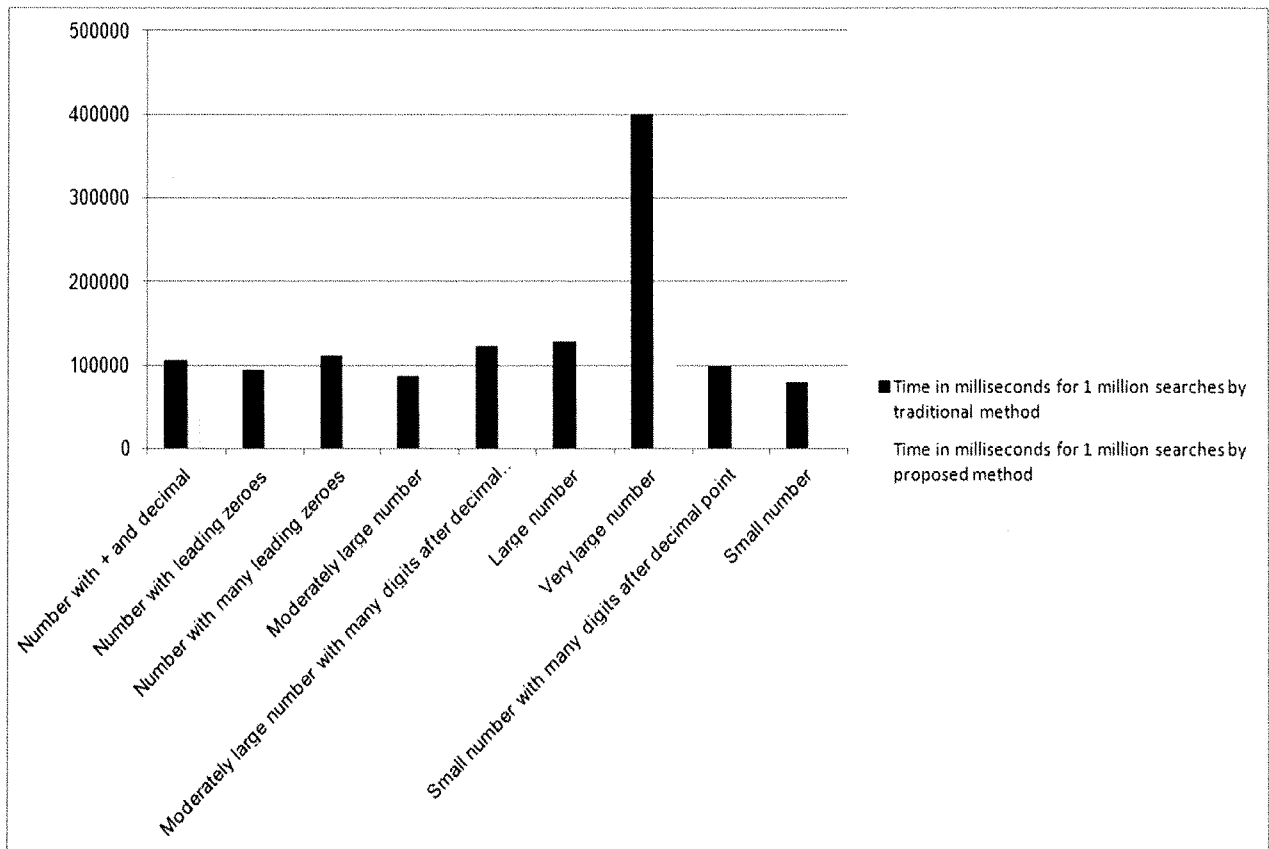


Figure 16