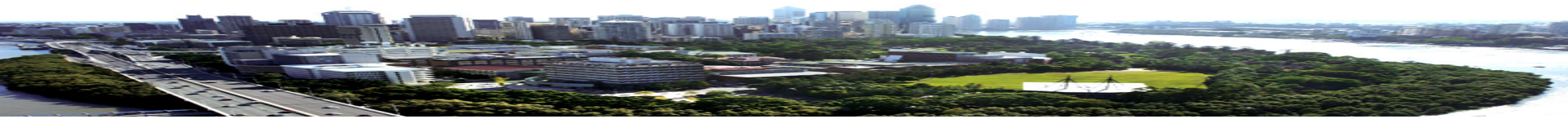
ENB 350 Real-time Computer based systems

Pre-requisite knowledge Test

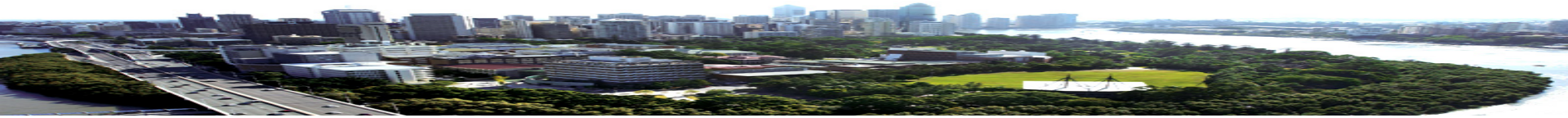


Instructions

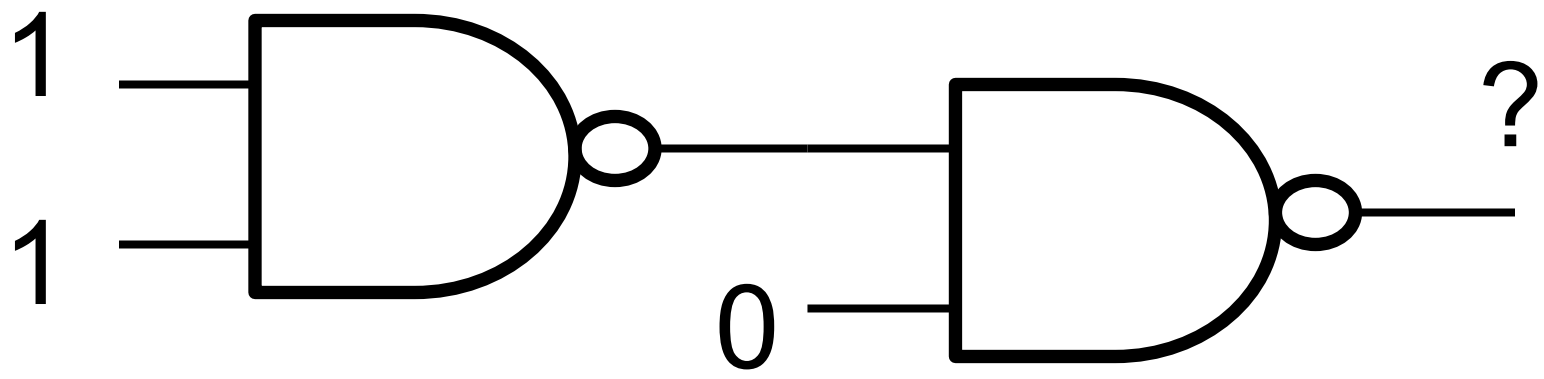
Write down your answers on the questions and return the question sheets to the lecturer.

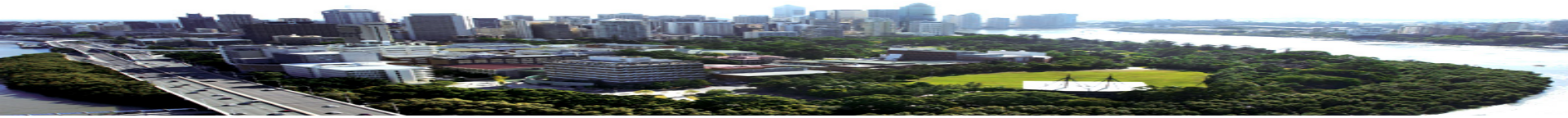
? :	Write down 1 or 0
Yes or No :	circle the correct choice
?? :	Write down the answer

Time: 15 minutes



What is the output?

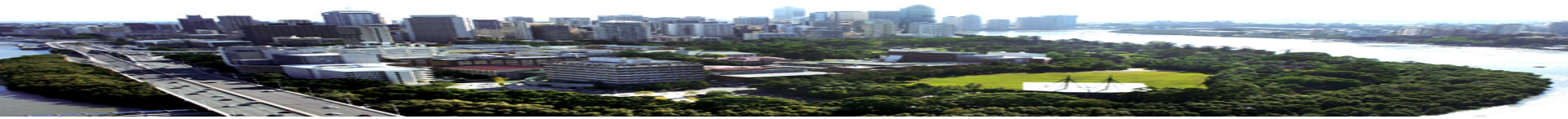




What is it enough for?

The output current from a typical CMOS microcontroller digital output line is enough for

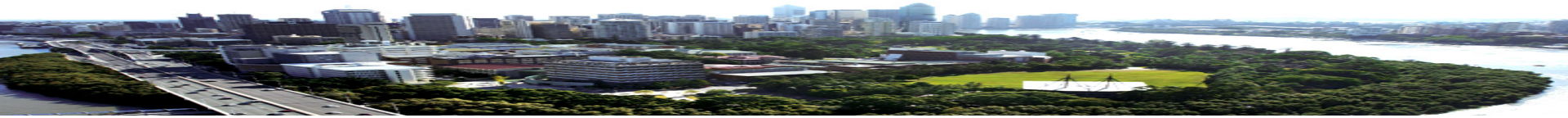
- An LED ? **Yes or No**
- A small dc motor ? **Yes or No**
- A solenoid ? **Yes or No**



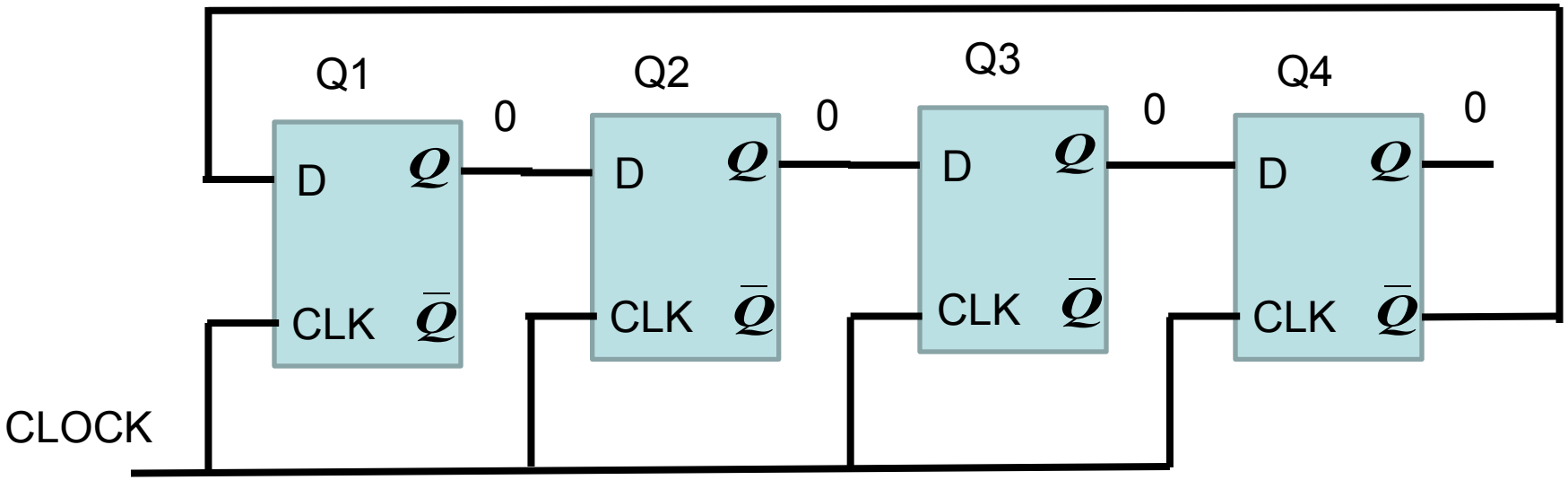
Complete the Truth Table

- For a full adder.

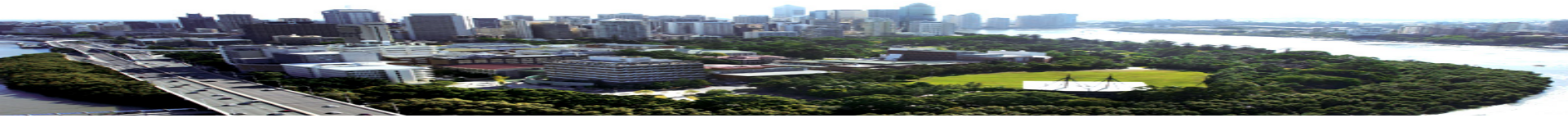
A	B	Carry In	Sum	Carry out
0	0	0	**?**	**?**
0	1	1	**?**	**?**
1	0	0	**?**	**?**
1	1	1	**?**	**?**



What is the next state?



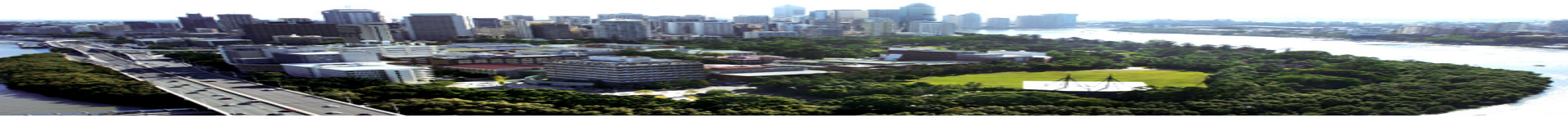
Present state Q1 Q2 Q3 Q4 is 0 0 0 0
Next state = ? ? ? ?



What is in a CPU?

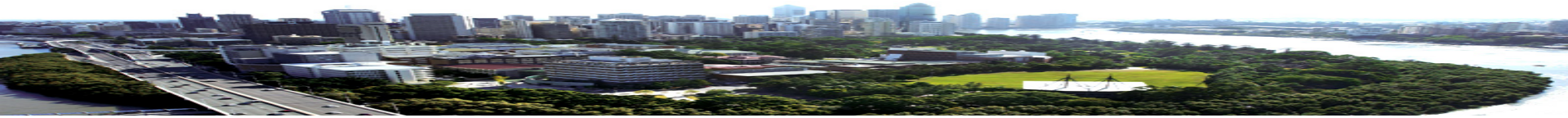
The central processing unit (CPU) of a microprocessor comprises of

- Arithmetic logic unit (Yes or No)
- Control logic (Yes or No)
- System clock (Yes or No)
- Memory (Yes or No)
- Registers (Yes or No)



A program counter keeps

A. data that needs to be incremented by 1
B. the size of the program
C. the number of running programs
D. the address of the next instruction
E. None of the above



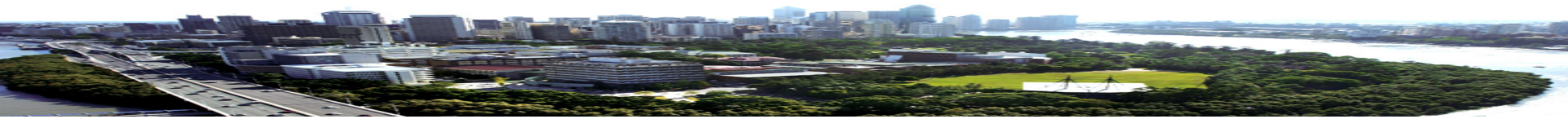
What is this number?

In 8 bit 2s complement notation it is

11111111

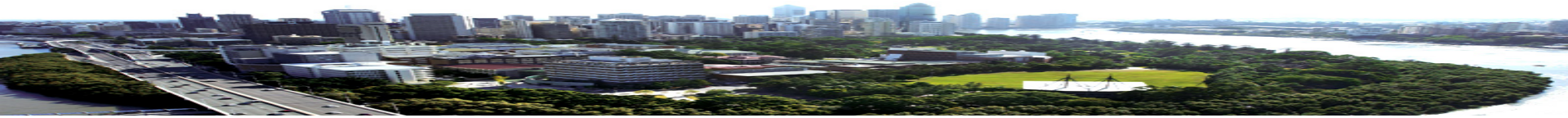
In decimal notation it is

??



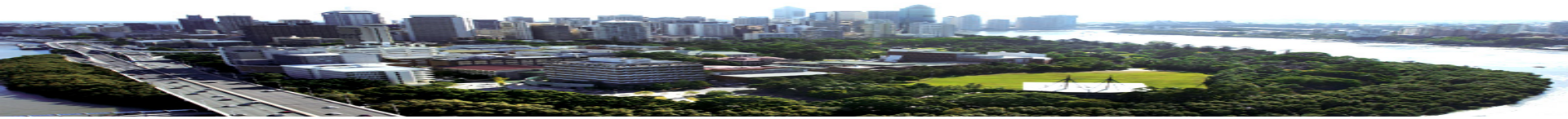
Are these key words in ANSI C?

for	Yes or No
if	Yes or No
waitfor	Yes or No
while	Yes or No
printf	Yes or No
costate	Yes or No
end	Yes or No



The & operator in C is

A. addition
B. logical AND
C. bitwise AND
D. concatenation
E. None of the above



What is the output?

```
#include <stdio.h>
void main()
{
extern void swap();
int a,b;
a =10; b=20;
swap(a,b);
printf("a = %d\n",a);
exit(0);
}
```

```
void swap(int x, int y)
{
int temp;
temp = x;
x = y;
y = temp;
}
```

a = ??