Homework2

1 . Answer these questions and Fill in the blanks.

What does it mean by Word Size in computer?

What are the differences between 32-bit word size and 64-bit word size?

Data type		Byte		
Signed	Unsigned	Linux32	Windows	Linux64
char	unsigned char			
int	unsigned			
int64_t	uint64_t			
float				
char*				

2.Consider the following function [sizeof(int) == 4]

```
typedef unsigned char byte;
void show_bytes(byte *start, int len) {
     int i;
     for(i = 0; i < len; i++)
        printf("%.2x",start[i]);
}
unsigned int val = 0x1234abcd;
 byte *valp = (byte *) &val;
```

(1) What is the value of valp[4] (if consider it as an array of 4 elements of "`byte`")?
Little-endian: {valp[0], valp[1], valp[2], valp[3]} = {(a), (b), (c), (d)}.
Big-endian: {valp[0], valp[1], valp[2], valp[3]} = {(e), (f), (g), (h)}

(2) What is the output of the following call to show_bytes on big-endian and little- endian machines respectively? (You can have a try on your machine!)

	Little-endian	Big-endian
show_bytes(valp, 1)		
show_bytes(valp, 2)		
show_bytes(valp, 4)		

3. In C language, if an evaluation expression contains both unsigned and signed values, then signed values will be implicitly casted into unsigned ones before evaluation. Please fill the following table with "<", ">" or "=". (Assume int value is encoded using 16 bits)

Constant A	Constant B	A ? B
-2U	-1U	
-1	1	
-1	100U	
-1	65535U	
-32767	32768U	