Lesson 11. C Programming (Important Question Set 1)

Q1

what is the output of the following C program frament?

```c
#include <stdio.h>

int main()
{
    printf("%d", printf("%s","Hello World!"));
    return 0;
}
```

- %s is used to print "string of characters."

- **printf not only prints the content on the screen. It also returns the number of characters that it successfully prints on the screen (返回在屏幕上成功打印的字符数)**

```
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Hello World!12
Process returned 0 (0x0)    execution time : 0.273 s
Press any key to continue.
```

Q2

what is the output of the following C program frament?

```c
#include <stdio.h>

int main()
{
    printf("%s\n","Hello");
    printf("%10s","Hello");
    return 0;
}
```

- **%10s** 意味着打印最多10个字符宽的字符

  Hello 只有5个字符，所以会先补充5个空格，然后打印其余5个字符

```
Hello
     Hello
Process returned 0 (0x0)   execution time : 0.241 s
Press any key to continue.
```

Q3

Q3: what is the output of the following C program fragment:

```c
int main() {
    char c = 255;
    c = c + 10;
    printf("%d", c);
    return 0;
}
```

a) 265
b) Some character according to ASCII table
c) 7
d) 9

A: d) Lsson 9 有相关知识 .... 算了，我还是决定再解释一遍

char是占 1 byte 也就是 8 bits ， 最多能容纳的是 2^8-1 = 255 (unsigned),
range： 0 ~255
255 + 10 相当于 -1+10 = 9 (回想那个圆时钟)

Q4

Which of the following statement/statements is/are correct corresponding to the definition of integer?
(以下哪一个陈述/哪些陈述与整数的定义相对应是正确的？）

I.   signed int i;
II. signed i;
III. unsigned i;
IV. long i;
V.   long int i;
VI. long long i;

a) Only I and V are correct
b) Only I is correct
c) All are correct
d) Only IV, V, VI are correct

singned/unsigned 是修饰符，int是数据类型，int i; 和 signed int i; 是等价的

Because integer is implicitly assumed. (因为整数是隐式假设的)
所以 **signed i; 等价于signed int i;** 类似的 **unsigned i; 等价于 unsigned int i;**

Q5

Q5: What does the following program fragment prints?

```c
int main() {
    unsigned i = 1;
    int j = -4;
    printf("%u", i+j);
    return 0;
}
```

a) garbage
b) -3
c) Integer value depends from machine to machine
d) None of the above

A: c)