while 當/只要

```
int n=0;
while(1){
        printf("%i\n" ,n);
        n++;
        _sleep(100);
}
```

```
int n=0;
do{
        printf("%i\n" ,n);
        n++;

}while(n<6);
```

```
int n=0;
while(n<6){
        printf("%i\n" ,n);
        n++;
}
```

```
int n=0;
do{
        printf("%i\n" ,n);
        scanf("%i", &n);
}while(n<6);
```

範圍檢測

```
int mm=0;
do{
        printf("month?  ");
        scanf("%i", &mm);
        if(                          )
                printf("Error\n");
}while(                          );
```

Range Check

```
char ans='Y';
do{
        fflush(stdin);
        printf("是否繼續? ");
        scanf("%c", &ans);
        if(                               )
                printf("Error\n");
}while(                          );
```

```
int sum=0, n=1;
while(       n<=5       ){
      sum = sum+n;
      n++;
}
printf("Sum = %i\n",sum);
```

sum = sum+
sum = sum+
sum = sum+
sum = sum+
sum = sum+

Sum =

難題：1+2+3+…+n ≤ 1000
      n = ??

```
int sum=0, n=1;
while(                  ){

      n++;
}
printf("N = %i\n", n);
```

```
int n=1234;
while(n>0){
      printf("%i\t",     n       );
      n = n/10;
}
```

```
int n=1234;
while(n>0){
      printf("%i\t",    n%10  );
      n = n/10;
}
```

```
int n=4;
for(    ; n<5 ;    ){
        printf("%i",n);
}
```

```
int n;
for(n=0; n<5; n++){
        printf("%i\n",n);
}
```

```
int n=0;
for(    ; n<5 ;    ){
        printf("%i\n",n);
        n++;
}
```

```
int n;
for(n=10; n<=20; n+=2){
        printf("%i\n",n);
}
```

```
int i,n;
srand(time(NULL));
for (i=0; i<3; i++) {

        printf("%i\t", n);
}
```

Roll a Die 擲骰子

Mark VI (1-49) ?

```
printf("Enter n (2-100): ");
scanf("%i", &n);

prime = 1;                              // n是質數
for (x=2;          ; x++){
        if(          ) prime = 0;       // n非質數
}
if (prime==1) printf("n是質數\n");
```

n÷x
n÷2
n÷3
n÷4
:

因數 Factors of N

```
printf("Enter n (2-100): ");
scanf("%i", &n);

for (x=2;            ; x++)
      if(              )
            printf ("%i", x);
```

Q: n=? 24
A: 1,2,3,4,6,8,12,24

質因數 Prime factors of N ?

```
printf("Enter n (2-100): ");
scanf("%i", &n);

for (x=2;            ; x++)
      while(              ){
            ... printf ("%i", x); ...
      }
```

Q: n=? 24
A: 2,2,2,3

Q: n=? 36
A: $2 \times 2 \times 3 \times 3 = 36$

練習：只利用一句 for/while 句子，顯示以下資料

a)   1, 2, 3,..., 9, 10
b)   1, 3, 5,..., 19
c)   2, 4, 6,..., 20
d)   31, 32, 33,..., 39
e)   20, 18, 16,..., 6, 4, 2
f)   5, 10, 15,..., 45, 50
g)   5, 15, 25..., 95
h)   1, 4, 9, 16,..., 81, 100
i)   1, -2, 3, -4,..., 9, -10
j)   1+2, 2+3, 3+4,..., 9+10
k)   -4, -3, -2, -1, 0, 1, 2, 3, 4
l)   4, 3, 2, 1, 0, 1, 2, 3, 4
m)   1, 2, 3, 4, 5, 4, 3, 2, 1