

hw0205 40947021S

原程式碼:

```
1  #include <stdio.h>
2  #include <stdint.h>
3  int main()
4  {
5      int32_t number = 0;
6      scanf("%d", &number);
7      int32_t bit = 1;
8      bit = bit << 31;
9      for (int i = 0; i < 32; i++)
10     {
11         if (bit & number)
12             printf("1");
13         else
14             printf("0");
15         bit = bit >> 1;
16     }
17     return 0;
18 }
```

第 15 行處每一次 Arithmetic right shift 並不會在最高位處補 0 而是複製一個 1，故每一次右移會由 (1000...) => (1100...)

故要將 bit 改為 unsigned

```
1  #include <stdio.h>
2  #include <stdint.h>
3  int main()
4  {
5      int32_t number = 0;
6      scanf("%d", &number);
7      uint32_t bit = 1; //改為無 sign
8      bit = bit << 31;
9      for (int i = 0; i < 32; i++)
10     {
11         if (bit & number)
12             printf("1");
13         else
14             printf("0");
15         bit = bit >> 1;
16     }
17     return 0;
18 }
```

