

Lab 3

Group 9

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The reverse_me_9.c hash algorithm:

```
long generate_hash(long num) {
    long k;
    long k2;
    long msb;
    msb = num >> 63;
    k = num / 1000 + msb;
    k2 = k - msb;
    num = num + ((num + (k - msb) * -1000) * k2 >> 2);
    return (num - num / k2) % 1901498371;
}
```

The approach to compute the passed 'num' parameter was a simple brute force until 1901498371.

The brute force method:

```
for(long i=0; i<1901498371;i++){
    if(generate_hash(i)==806366757){
        printf("%ld\n",i);
        break;
    }
}
```

Following this bruteforce method I figured out that the 'num' value was 686124701.

```
→ ./reverse_me_9
Welcome to School of Reversing!
To enter into the school, you need to prove your worth
Please enter the password that will hash to the value: 806366757
686124701
Congrats! Enter into the path of Wizardry!
```