















name	Q1	Q2	Q3	Q4	Q5	Auth	PW
John	50	40	23	27	49		nervdie1
Eps	39	29	43	46	16		qwerty98
Sam	0	50	43	25	38		@nasa54
Kebin	50	50	50	43	47		epsilon90
Sara	12	18	36	27	0		endless39

Fig. 5. Grade table with pre-shared password

## 2. Pseudo Code

```

Init Grades_info table

For i=0 to num of students
{
    Hash_value = sha256(PW||DATE)
    Grades_info[i][num of students] = upper 4bytes of Hash_value
    Hash_value = Hash_value << 32

    For j=0 to num of question
    {
        Grades_info[i][j+1] ^= upper 1 byte of Hash_value
        Hash_value = Hash_value << 8
    }
}
    
```

Source Code 1. Pseudo code about making encrypted table. You can select any value as “DATE” at line 4. You have only to select different values in midterm and finals.

## 3. Encryption procedure step by step

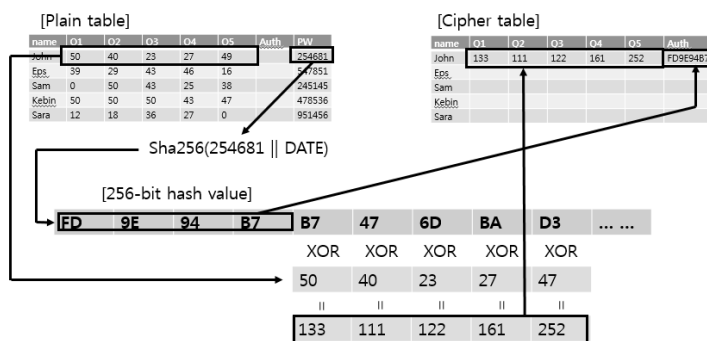


Fig. 6. The diagram of the encryption flow with password