Problem Set 4 Exercise #02: NRIC Check Code

Reference: Lecture 10 notes

Learning objective: Characters

Estimated completion time: 30 minutes

Problem statement:

Write a program **ic_check_code.c** to read a 7-digit positive integer representing a NRIC number and generate its check code.

The algorithm for generating NRIC check code is illustrated with the following example of NRIC number **8730215**.

Step 1: Multiply the digits with their corresponding weights 2, 7, 6, 5, 4, 3, 2 and add the products. Example: 8×2 + 7×7 + 3×6 + 0×5 + 2×4 + 1×3 + 5×2 = 104

Step 2: Divide step 1 result by 11 to obtain the remainder. Example: 104 % 11 = 5

Step 3: Subtract step 2 result from 11. Example: 11 - 5 = 6

Step 4: Match step 3 result in this table below for the check code.

Step 3 result	1	2	3	4	5	6	7	8	9	10	11
Check code	A	B	C	D	E	F	G	H	I	Z	J

Example: The check code corresponding to 6 is 'F'.

Your program should include a function

```
char generate_code(int num)
```

that takes in an integer (the NRIC number) as parameter and returns a character (the check code of that NRIC number).

A tip is given at the end of next page.

Sample run #1:

```
Enter 7-digit NRIC number: 8730215
Check code is F
```

Sample run #2:

```
Enter 7-digit NRIC number: 1234567
Check code is D
```

Sample run #3:

Check against your own IC and report any discrepancy to the ICA.

Use tips:

This exercise can be done without using array/string, but will result in a long-winded program. Can you make use of array/string to shorten your code?