**Assignment 1 (submit in one single text file)**

**Q1.**

Q1-1

Draw the flow chart of a program that will determine if a person is allowed to play a game base on their date of birth and gender according to the table below.

|  |  |  |
| --- | --- | --- |
|  | **Male** | **Female** |
| Can Play | Age is or above 18 | Age is or above 21 |
| Cannot Play | Age below 18 | Age below 21 |

HINT:

* What is the information needed from the user?
* What is the calculation to be done?
* What is the decision to be made?
* What information must the program display to the user?

Q1-2

Convert symbol(s) from flowchart into Python code.

**Q2.**

Write a Python program that read words from the user until the user enters a blank line. After the user enters a blank line your program should display each word entered by the user exactly once. The words should be displayed in the same order that they were entered, see below example:

first

second

first

third

second

then your program should display

first

second

third

**Q3.**

Q3-1

Write a Python program to ask user to enter the NRIC ID card number and apply the following rules to check whether it has a valid format. Report any invalid format to user.

a. Has a length of 9.

b. Starts with a “S” and ends with a letter.

c. Contains 7 numbers between the two letters.

The valid format is SNNNNNNNL where N represents a number and L represents a letter.

Q3-2

Write a function in the Python program from Q3-1 to apply the following calculations in sequence to validate the last letter of the NRIC ID card number. Report any invalid last letter to user.

1. Multiply each of the 7 numbers with 2, 7, 6, 5, 4, 3, 2 in sequence.
2. Sum up the multiplication results.
3. Divide the sum result by 11 and get the reminder.
4. Match the remainder with the letter in the table.
5. The NRIC number must have the corresponding letter in the table.

For example, “S7654321” produces a remainder 5, so it should end with a “F”.

Table

Description automatically generated

**Q4.**

A departmental store has some mystery gifts to be given away to the first 10 lucky customer every day.

giftList = ['$10 vouchers', 'Keychain’,

'Umbrella', 'Tote Bag’,

'$50 vouchers', '25% rebate for all purchases’,

'DKNY perfume 25ml', '$20 vouchers’,

'Kose Mask White 50ml', 'Pearl Necklace']

* Lucky customers could not see the gifts in the list, but get to choose the gift based on the position of the gift in the list.
* Write a Python program to remove the gift in the position customer has chosen from the list and show the customer what is the mystery gift.
* The program would do this for 10 times, removing 1 gift from the list each time, until all the gifts has been given out.
* In addition, it must display the position of the remaining gifts in the list after each draw.