Activity 3.1

By referring to the flowchart, indicate whether the given statements are 'true' or 'false'.

a) Condition 1 in the flowchart is executed first. (True/ False)

b) Instruction 1 does not execute under any condition. (True/ False)

c) Condition 1 is executed after Instruction 1. (True/ False)

d) Execution of Instruction 3 depends only on condition 2. (True/ False)

```
        Start
          │
    Instruction 1
          │
                        No
      Condition 1  ─────────→  Instruction 2
          │ Yes                      │
      Condition 2  ─────────→  Instruction 3
          │ Yes                      │
    Instruction 4                    │
          │                          │
        End  ←──────────────────────┘
```

e) For Instruction 4 to be executed, both condition 1 and condition 2 must be true. (True/ False)

f) Whatever the outcomes of the conditions may be, Instruction 1 and one another instruction will be executed. (True/ False)
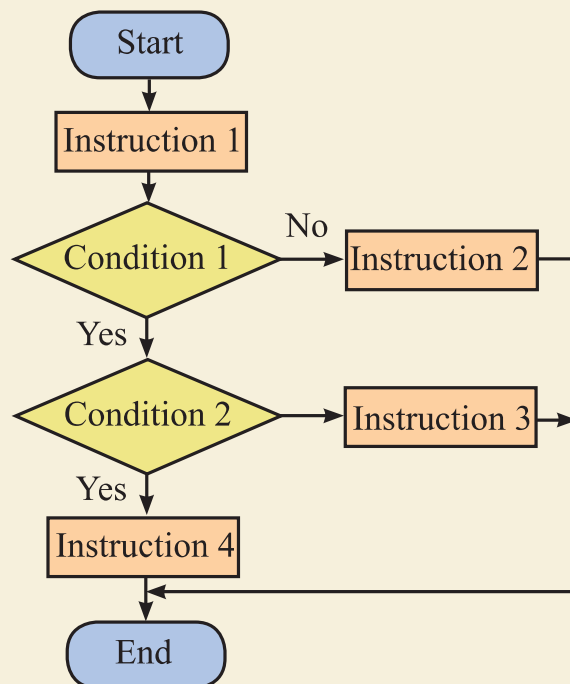
As mentioned in the Information and Communication Technology, Grade 7 Reading book, download the scratch software from http://www.scratch.mit.du

Consider that, a school has four houses namely Metta, Karuna, Muditha and Upeksha. A flowchart to assign students to their houses is given below. Houses are assigned based on the remainder after dividing the admission number by 4.

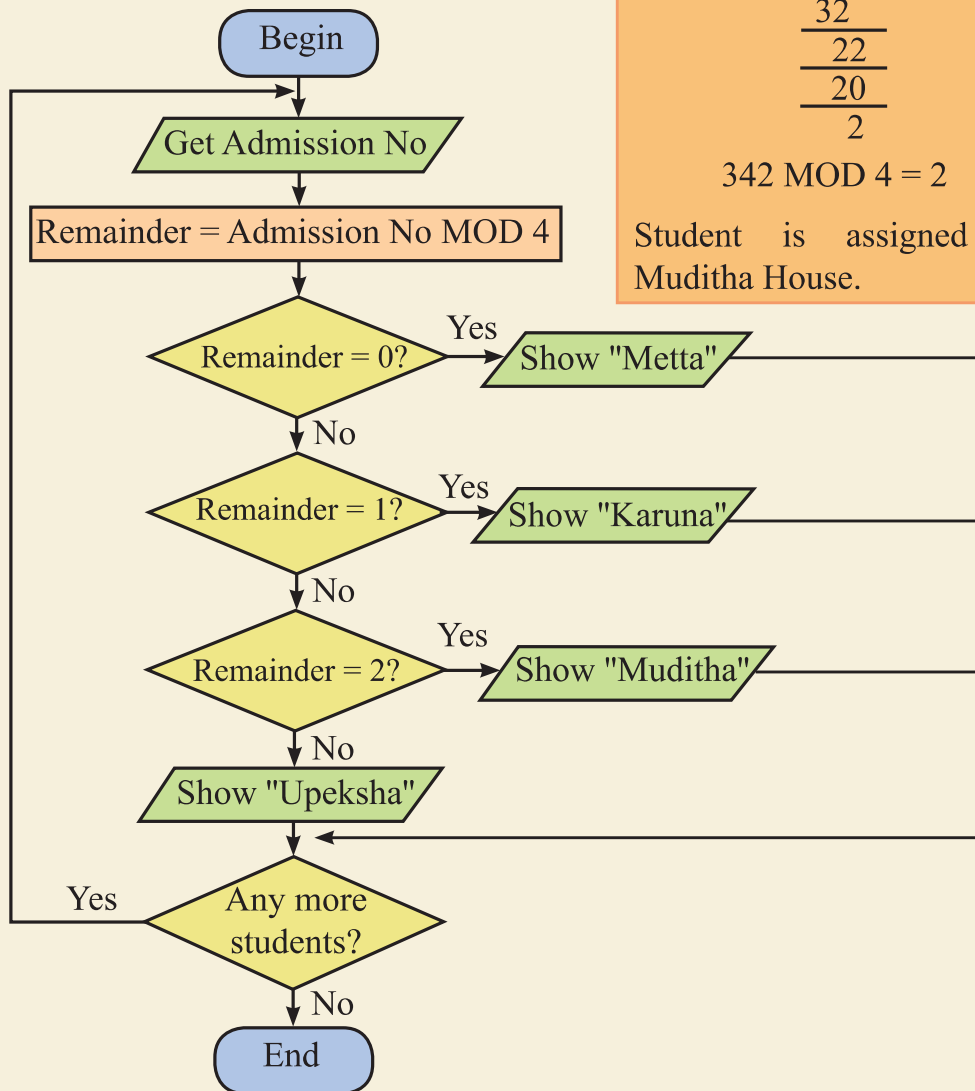| Remainder	House
0	Metta
1	Karuna
2	Muditha
3	Upeksha

Here, the remainder is obtained by dividing the Admission No. by 4.

e.g. - Admission No. = 342

$$\begin{array}{r} 85 \\ 4\overline{)342} \\ 32 \\ \hline 22 \\ 20 \\ \hline 2 \end{array}$$

342 MOD 4 = 2

Student is assigned to Muditha House.

Answer the following questions.

1. A number that cannot exists as a remainder

       1) 0   2) 2   3) 3   4) 4
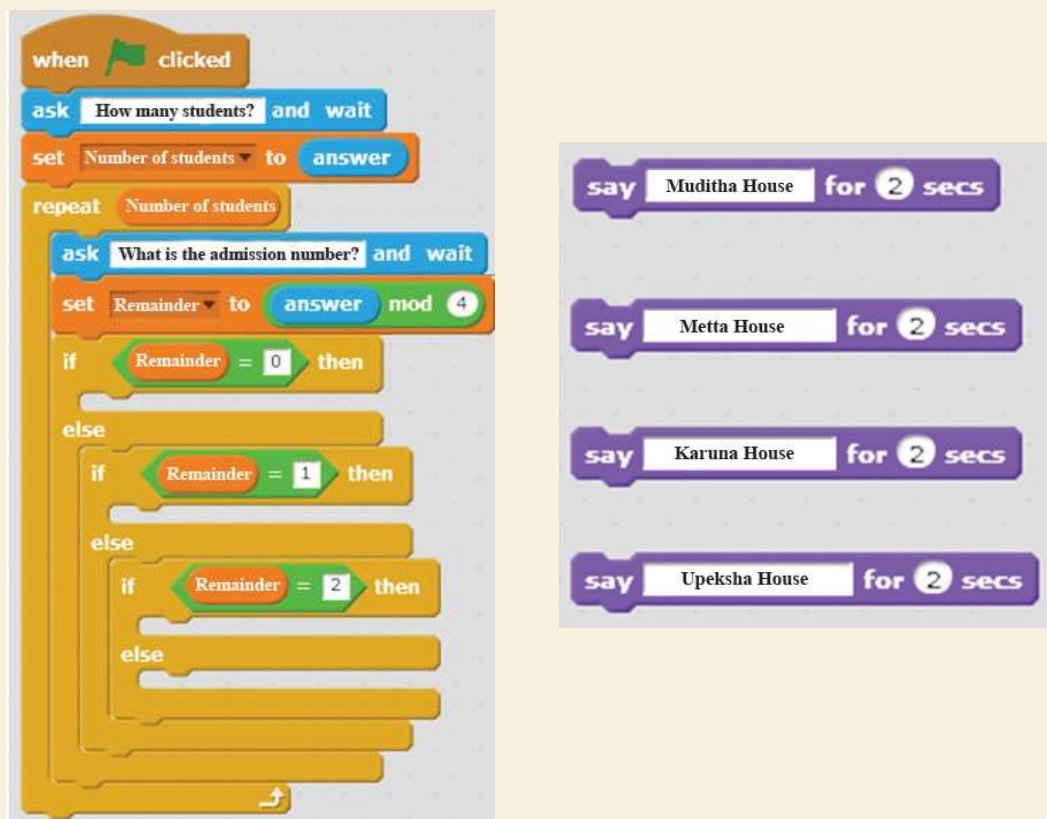
2. A suitable remainder for a student assigned to Upeksha House is:

       1) 3   2) 2   3) 1   4) 0

3. How many conditions are there in this flowchart?

       1) 1   2) 2   3) 3   4) 4

The Scratch program to divide all students in the school into houses is shown below. Connect with arrows the instructions relevant for blank spaces.
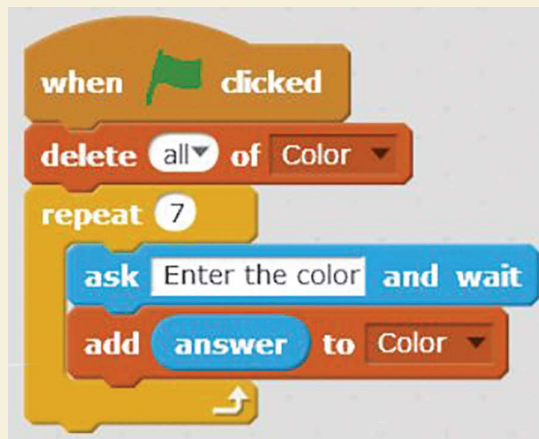

Activity 3.3

Develop a Scratch program to divide the students in your school into houses.

Activity 3.4

1. Develop a program with an array to enter 5 subjects learnt in Grade 9.

2. Construct a suitable program based on an array to output seven days of the week. Name the Array as "day".

3. Find answers based on the array called "color" shown below.

```
when [flag] clicked
delete (all▾) of [Color ▾]
repeat (7)
    ask [Enter the color] and wait
    add (answer) to [Color ▾]
```

4. How many times the above program is repeated when it is executed?

5. How many colors can be assigned to the array "color"?

6. Select the suitable statements and match them with the instructions given below.

a) To delete all the items in the array.   `add (answer) to [Color ▾]`

b) Number of items in the array   `delete (all▾) of [Color ▾]`

c) The first item in the array   `length of [Animal ▾]`

d) Entering items into the array.   `item (1▾) of [Animal ▾]`