LAB EXERCISE 3 (SECJ1013)

PROGRAMMING TECHNIQUE 1

SECTION 04, SEM 1, 2021/2022

INSTRUCTIONS TO THE STUDENTS

- *This exercise must be done **individually**.*
- *Please refer to the list of question sets to find out your set of questions.*
- *Your program must follow the input and output as required in the text and shown in the examples. You must test the programs with (but not limited to) all the input given in the examples.*
- *Any form of plagiarisms is **NOT ALLOWED**. Students who copied other students' programs will get **ZERO** marks (both parties, students who copied, and students that share their work).*
- *Please insert your **name, matrics number, and date** as a comment in your solution.*

SUBMISSION PROCEDURE

- *Please submit this exercise no later than **November 25, 2021, Thursday (20:00 MYT)**.*
- *Only one file is required for the submission which is the source code (the file with the extension .cpp).*
- *Submit the assignment via the UTM's e-learning system.*

SET 1

Write a complete C++ program that reads an integer number and then calculate the sum of its digits. After that, identify whether the sum of digits for the integer is a multiple of 3, 4, and/ or 5. ***Hint:*** You should use operator divide (/) and modulus (%) and also **post-test loop** to answer this question.

Example 1

```
Enter an integer number: 5168
8 + 6 + 1 + 5 = 20
20 is multiples of 4 and 5
```

Example 2

```
Enter an integer number: 9996999
9 + 9 + 9 + 6 + 9 + 9 + 9 = 60
60 is multiples of 3, 4 and 5
```

Example 3

```
Enter an integer number: 51684
4 + 8 + 6 + 1 + 5 = 24
24 is multiples of 3 and 4
```

Example 4

```
Enter an integer number: 2161
1 + 6 + 1 + 2 = 10
10 is multiples of 5
```

Note: The number in **bold** indicates input entered by the user.

SET 2

Write a complete C++ program that reads an integer number and then calculate the sum of its digits. After that, identify whether the sum of digits for the integer is an even or odd number, and a multiple of 4, and/ or 5. ***Hint:*** You should use operator divide (/) and modulus (%) and also **pre-test loop** to answer this question.

Example 1

```
Enter an integer number: 1235
5 + 3 + 2 + 1 = 11
11 is odd number
```

Example 2

```
Enter an integer number: 6545
5 + 4 + 5 + 6 = 20
20 is even number & multiples of 4
and 5
```

Example 3

```
Enter an integer number: 89251
1 + 5 + 2 + 9 + 8 = 25
25 is odd number & multiples of 5
```

Example 4

```
Enter an integer number: 98762
2 + 6 + 7 + 8 + 9 = 32
32 is even number & multiples of 4
```

Note: The number in **bold** indicates input entered by the user.

SET 3

Write a complete C++ program that reads an integer number and then calculate the product of its digits. After that, identify whether the product of digits for the integer is a multiple of 4, 5, and/ or 7. ***Hint:*** You should use operator divide (/) and modulus (%) and also **pre-test loop** to answer this question.

Example 1

```
Enter an integer number: 175
5 * 7 * 1 = 35
35 is multiples of 7 and 5
```

Example 2

```
Enter integer number: 9212
2 * 1 * 2 * 9 = 36
36 is multiples of 4
```

Example 3

```
Enter integer number: 2417
7 * 1 * 4 * 2 = 56
56 is multiples of 7 and 4
```

Example 4

```
Enter integer number: 61145
5 * 4 * 1 * 1 * 6 = 120
120 is multiples of 4 and 5
```

Note: The number in **bold** indicates input entered by the user.

SET 4

Write a complete C++ program that reads an integer number and then calculate the product of its digits. After that, identify whether the product of digits for the integer is an even or odd number, and a multiple of 3, and/ or 5. ***Hint:*** You should use operator divide (/) and modulus (%) and also **post-test loop** to answer this question.

Example 1

```
Enter integer number: 351
1 * 5 * 3 = 15
15 is odd number & multiples of 3
and 5
```

Example 2

```
Enter integer number: 363
3 * 6 * 3 = 54
54 is even number & multiples of 3
```

Example 3

```
Enter integer number: 256
6 * 5 * 2 = 60
60 is even number & multiples of 3
and 5
```

Example 4

```
Enter integer number: 7442
2 * 4 * 4 * 7 = 224
224 is even number
```

Note: The number in **bold** indicates input entered by the user.