

Test 1 (Time: 1 hour)

Marks: 10%

**INSTRUCTIONS:** Create your files with your **matric number**. Eg. KIE160001Q1.py, KIE160001Q2.py**QUESTION 1**

Write a program that

1. Reads a five-digit integer.
2. Separates the number into its individual digits [Hint: Use combinations of integer division and the remainder operator].
3. Prints the digits in a reverse order separated from one another by a tab.
4. Performs addition with the first, third and the last of the reverse ordered digits; and multiplication with the second and fourth reversed digits, then display the output.

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Enter a five-digit number: 12345
The digits in reverse order : 5      4      3      2      1
Addition : 5 + 3 + 1 = 9
Multiplication : 4 x 2 = 8

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**QUESTION 2**

Let say you need to develop a program to fly a drone. Prior to that you need to find out how far a drone could travel based on certain parameters provided. In the preliminary developing stage, assume that these values are provided by the users although in a real situation these values should be obtained from the system. Assume that parameters needed are voltage (in volts), current (in amperes) and blade speed (in RPM). Assume the formula to calculate the range of travel is based on the following formula:

$$\text{Range} = (\text{Voltage} * 1.2) + (\text{Current} * 0.5) + (\text{Blade speed} * 0.2)$$

Write a program that request these three values and print all the values including the range for 4 different cases in a tabular format.

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Enter the voltage : 2
Enter the current : 1
Enter the rpm : 2000

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Enter the voltage : 4
Enter the current : 5
Enter the rpm : 2000

Voltage Current    RPM          Range
2.0      1.0      2000.0      402.9
3.0      2.0      1000.0      204.6
4.0      2.0      1333.0      272.40000000000003
4.0      5.0      2000.0      407.3...

```