**Independent work of student 1**

Do the following exercises:

1. Write a program that prompts the user to enter his weight (in kilograms) and height (in meters). The program should calculate body mass index (BMI) using the formula: BMI = weight / (height \* height). The program must then assign BMI to one of the following categories:

less than 18.5 - Underweight

BMI between 18.5 and 24.9 - Normal weight

BMI between 25 and 29.9 - Overweight

BMI 30 or greater – Obesity

1. Write a program that prompts the user to enter a year and determine whether the year is a leap year or not. A leap year is any year that is divisible by 4 without a remainder. A year that is divisible by 100 without a remainder is a leap year only if it is also divisible by 400 without a remainder. For example:

1992 Leap Year

2000 Leap Year

1900 NOT a Leap Year

1995 NOT a Leap Year

1. Write a program that asks the user to enter his name and type his initials. It is assumed that the user always enters a first, middle, and last name and does not contain unnecessary spaces. For example, if the user types **Ajay Kumar Garg**, the program should display **AKG**
2. Find the sum of each row of a matrix of size mx n. For example, for the following matrix the output would be:



Sum of row 1 = 32

Sum of row 2 = 31

Sum of row 3 = 63

1. Write a definition for the count\_now(places) method to search and display those place names that have more than 5 characters.

For example :
If the list places contains["DELHI","LONDON","PARIS","NEW YORK","DUBAI"]The following should get displayed :LONDONNEW YORK

1. Write a function that takes a dictionary as an argument. If the dictionary contains duplicate values, it should return an empty dictionary. Otherwise, it should return a new dictionary in which the values become the keys and the keys become the values.

For example, if the dictionary contains the following key-value pairs:
{'a': 10, 'b': 20, 'c': 20}the function should return an empty dictionary {} because there are duplicate values.