Problem 1: Write a program to read the First name and Last name of a person, his weight and

height using command line arguments. Calculate the BMI Index which is defined as

the individual's body mass divided by the square of their height.

|  |  |
| --- | --- |
| Category | BMI Range-Kg/m2 |
| Underweight | <18.5 |
| Normal (healthy weight) | 18.5 to 25 |
| Overweight | 25 to 30 |
| Obese Class | Over 30 |

Display the name and display his category based on the BMI value thus calculated.

Problem 2: Write a program called NumberGuess to play the number guessing game. The

program shall generate a random number between 0 and 99. The player inputs

his/her guess and the program shall response with "Too higher", "Too lower" or

"Congratulations! You got it.." accordingly.

Problem 3: If there are 4 batches in BTech learning ‘CSE1007’ course, read the count of the

slow learners (who have scored <25) in each batch. Tutors should be assigned in the

ratio of 1:4 (For every 4 slow learners, there should be one tutor). Determine the

number of tutors for each batch. Create a 2-D jagged array with 4 rows to store the

count of slow learners in the 4 batches. The number of columns in each row should

be equal to the number of groups formed for that particular batch ( Eg., If there are

23 slow learners in a batch, then there should be 6 tutors and in the jagged array,

the corresponding row should store 4, 4, 4, 4, 4,3). Use for-each loop to traverse

the array and print the details. Also print the number of batches in which all tutors

have exactly 4 students.

Problem 4: Create a class StudentGrade with member –

determineGrade( ) that accepts register number (String) and marks (float-type) of a

student in all courses he has registered for a particular semester. If the length of

marks is 0 display – "You have not registered for any course" else the method should

display the mark and the grade obtained in each course and a count of 'S' grade.

Note: The method should accept variable length argument for marks, because

one student might have registered only for 5 courses, the other for 7 courses and

so on.

Use the following criteria to determine the grade

Mark between 90.0 and 100.0 - Grade 'S'

between 80.0 and 89.0 - Grade 'A'

between 70.0 and 79.0 - Grade 'B'

between 60.0 and 69.0 - Grade 'C'

between 55.0 and 59.0 - Grade 'D'

between 50.0 and 54.0 - Grade 'E'

less than 50.0 – Grade 'F'

Create a main class that calls the above method for 5 students.

Problem 5: Create a class Film with string objects which stores name, language and lead\_actor

and category (action/drama/fiction/comedy). Also include an integer data member

that stores the duration of the film. Include parameterized constructor, default

constructor and accessory functions to film class. Flim objects can be initialized either

using a constructor or accessor functions. Create a class FilmMain that includes a

main function. In the main function create an array of objects that stores the

information about the film. Also write suitable methods to display the following

a. The English film(s) that has Arnold as its lead actor and that runs for shortest

duration.

b. The Tamil film(s) with Rajini as lead actor.

c. All the comedy movies.

Problem 6: The following list gives the amount of rainfall (in cms) recorded at a particular place

for 12 months.

10.2, 11.9, 8.0, 11.2, 10.8, 6.9, 8.2, 11.5, 10.4, 8.7, 7.8, 7.5.

Store these values in an array. Find the average rainfall and display the count of the

number of months in which the rainfall is more than the average.