**Use case 1**

The program takes as input a four digit number num from the user, calculates the sum of num's digits and then the product of the digits of num with each other, calculates the square of the sum of the digits and prints the values calculated by the program. At first, the system defines the int function named sumOfDigits in which the system sums the digits of the four-digit number and at the end the sum is returned. Then the system defines the int function named productOfDigits in which the system multiplies the digits of the four-digit number with each other and at the end the product is returned as a variable named product. Then the main function is defined, where the four variables num, digitSum, squareOfSum, digitProduct are defined. The user is asked to give an input as the four digit number. Then the system gives value in variable digitSum as the value that the sumOfDigits returns to calculate the sum of the digits calling the function sumOfDigits. Then the system gives value in variable digitProduct as the value that the productOfDigits returns to calculate the product of the digits calling the function productOfDigits. Finally, the system prints the values of num, digitSum, digitProduct, squareOfSum.

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| --- | --- | --- |
| **User Input (income)** | **Sum of digits** | **Product of digits** |
| 1234 | 10 | 24 |

**Use case 2**

The program takes as input the amount that the user will get as a loan and based on the user's gross income, the tax they pay, the net income that the user has and the monthly amount that he will pay based on the above to repay the loan within a certain time limit in years is calculated. The system defines the function calculateTax that based on the user's income, it calculates the amount of tax the user will pay. Then the system defines the function calculateNetSalary in which the gross income is calculated as the income added with the bonuses and then the net salary is calculated based on the gross income of the user reduced by the tax that they will pay. Then the system defines calculateLoanPayment, in which the system calculates the monthly amount the user needs to pay based on the total amount of the loan amount, the annual rate and the time limit in years to repay the loan. The system defines the main function, where the variables income, bonuses, loan amount and annual rate are defined as float and after that the variable years is defined as int. The system gives values at the variables income, bonuses, annual rate and then sets the variable years as twenty. The system asks the user to insert the loan amount and then calculates the amount needed to pay monthly to buy out the loan.

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| **User Input (loan amount)** | **Monthly Loan Payment** | **Net salary after taxes** |
| 50000 | 437.50 | 15080.00 |