Assignment 1

1. Given a list of N integers, find its mean (as a double), maximum value, minimum value, and range. Your program will first ask for N(the number of integers in the list),then the numbers.
2. Write a C++ Program to accept n from user and print first n prime numbers.
3. Write a C++ Program to Calculate approximate value of Pi using Monte Carlo Method.
4. Create a time Table Generator.
    Input Description:

    > First line indicates no. of classes
    > Second line shows number of students per class
    > Third line indicates number of available teachers
    > Fourth line indicates total hours for a day
    > Fifth line indicates hours allotted for each class
    > Sixth Line indicates break between two classes.

    Output Description:

    Most elaborated Time table, keeping all above constraints in mind.

5. Write a program to manage 100 bank accounts. The accounts have numbers ranging from 1001 to 1100 (decimal). There are several types of transactions, which the program will read. If allowed, the program may modify the account balance. Otherwise a warning message will be printed. The dialogue for the transactions have the following forms:

    In the following, the bold type represents questions the program types to the user. Each response to the *transaction type* question is a single character. Any attempted illegal transaction causes an error message. Amounts are in dollars and can have 0, 1 or 2 digits after the point: 2765 or 123.4 or 8864.57:

Interaction	Explanation
Transaction type?: O **Initial deposit?:** amount **PIN?:** pin	Open an account, giving the initial deposit and a pin. Allowed if less than 100 accounts now open. Prints the new account number.
Transaction type?: B **Account** **number?:** account_number **PIN?:** pin	A Balance inquiry, prints the account number and the balance, only allowed if the account is open and pin verified.
Transaction type?: D **Account**	A Deposit, prints the account number and new balance, only allowed if account open and pin verified.

number?: account_number **Amount?:** amount **PIN?:** pin	
Transaction type?: W **Account** **number?:** account_number **Amount?:** amount **PIN?:** pin	A Withdrawal, only allowed if account open, pin verified and sufficient funds available, prints account number and new balance.
Transaction type?: C **Account** **number?:** account_number **PIN?:** pin	Close the account. Only allowed if account is open and pin verified.
Transaction type?: I **Interest rate?:** interest_rate	Compute interest at given % rate. and apply to all accounts
Transaction type?: P	Print all the account numbers and amounts.
Transaction type?: E	Close all accounts and exit program

Add a special pin number for the bank manager. Add a transaction type S to open the bank. Only the manager should be allowed to do transactions S, P, I, and E. For each transaction, the computer must ask for the pin number.