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| **Problem Statement:**  **Task**  You have to implement the concept of switch case, loops and operators using java code. Define different methods for checking Prime number, Armstrong number, generating Fibonacci series, calculating the factorial value and generating the password from emailed.  **SubTask 1**: Create a class *JavaFundamentals.*  **SubTask2**: Create a method for checking Prime Number as checkPrime(int n)  **SubTask3**: Create a method for checking Armstrong Number as checkArmstrong(int n)  **SubTask4**: Create a method for generating Fibonacci series as generate\_Fib\_Series(int a,int b,int n) where n represents the length of the series.  **SubTask5**: Create a method for calculating factorial value as fact(int n)  **SubTask6**: Create a method for generating the password from emailId as  generatePassword(String mailid)  **SubTask7**: Using Switch case call the corresponding functions  **Note:**  1. Do not remove the predefined code else your code may not execute as expected.  2. You’ve to solve the problem using **Switch Case, loops and operators**. Ignoring any concepts may lead to disqualification. |
| **Input & Output Format:**  **Input Format**  Consider the list of methods are mapped to the switch cases as follows:   1. *checkPrime(int n)* 2. *checkArmstrong(int n)* 3. *generate\_Fib\_Series(int a,int b,int n)* 4. *fact(int n)* 5. *generatePassword(String mailid)*   The first line of input contains a single integer **N** denoting the number of functions to be invoked.  The subsequent **N** lines contain single integer denoting the function number followed by the corresponding parameter value.  **Output Format**  Displays the evaluated result of the invoked methods |
| **Sample Input :**  **4**  **1**  **13**  **2**  **153**  **4**  **5**  **5 abcde@gmail.com**  **Sample Output:**  **13 is prime number**  **I53 is an Armstrong number**  **5 factorial is 120**  **Password is abcde123** |
| **Test Case 1 :**  **2**  **1**  **15**  **2**  **370**  **15 is not prime number**  **370 is an Armstrong number**  **Test Case 2 :**  **2**  **4**  **6**  **5**  [**mithra@gmail.com**](mailto:mithra@gmail.com)  **6 factorial is 720**  **Password is mithra123**  **Test case 3:**  **1**  **1**  **23**  **23 is prime number**  **Test case 4:**  **3**  **1**  **16**  **2**  **3**  **5**  [**joshvi@gmail.com**](mailto:joshvi@gmail.com)  **16 is not prime number**  **3 factorial is 6**  **Password is joshvi123**  **Test case 5:**  **1**  **3**  **1**  **1**  **7**  **1**  **1**  **2**  **3**  **5**  **8**  **13** |