**QUESTION:**

Create a class Emrip having following specification.

Class Name: Emrip

Data Members:

* int n - to store the number

Member methods:

Emrip (int nn) - to initialize n with nn.

* int Prime() - to check whether the number is prime or not. If it's Prime return 1 else 0.
* int reverseNumber (int n) - to return the reverse of the original number.
* void check() - to check whether the original number (inserted by user) is equal to its reverse and display the print statement accordingly.

Write a main method to create the object of the class and call the above methods properly.

****ALGORITHM :****

****Class Emrip:****

* ****Constructor Emrip(int nn):****
  + Initializes instance variable 'n' with the provided value 'nn'.

****Method Prime(int n):****

1. Start
2. If n <= 1, return 0 (not prime).
3. Iterate from i = 2 to the square root of n:
   * If n is divisible by i, return 0 (not prime).
4. Return 1 (prime).
5. End.

****Method reverseNumber(int n):****

1. Start
2. Initialize 'reverse' to 0.
3. While n is not equal to 0:
   * Get the last digit of n using 'n % 10'.
   * Update 'reverse' by appending the digit: 'reverse = reverse \* 10 + digit'.
   * Remove the last digit from n: 'n = n / 10'.
4. Return 'reverse'.
5. End.

****Method check():****

1. Start
2. If 'Prime(n)' returns 0:
   * Print "Given number is not a prime number."
3. Reverse the digits of 'n' using 'reversed = reverseNumber(n)'.
4. If 'n' is not equal to 'reversed' and 'Prime(reversed)' returns 1:
   * Print "Given number is a pal prime number."
5. Else:
   * Print "Given number is not a pal prime number."
6. End.

****Main method:****

1. Start
2. Create a Scanner object 'sc' to read input.
3. Print "Enter a number."
4. Read an integer 'num' using 'sc.nextInt()'.
5. Create an instance of the 'Emrip' class named 'number' with 'num'.
6. Call the 'check()' method on the 'number' object.
7. End.

**Variable Description Table**

|  |  |  |
| --- | --- | --- |
| **Variable Name** | **Data Type** | **Description** |
| n | int | Stores the input number |
| nn | int | Temporary variable to store constructor argument |
| i | int | Loop variable for prime checking loop |
| digit | int | Stores the last digit of a number |
| reverse | int | Stores the reversed number |
| sc | Scanner | Scanner object for input |
| num | int | Stores the user input number |
| number | Emrip | Instance of the Emrip class |