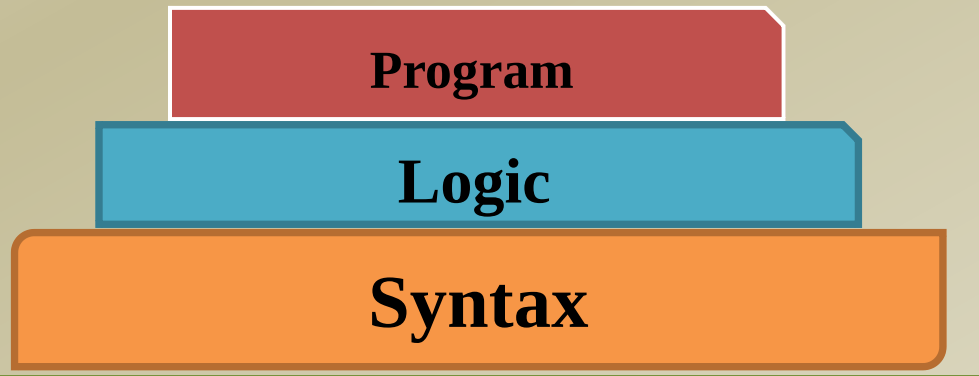
Code at Random (OPC) PVT. LTD.

Program To check a number whether it is a Mersenne prime or not



What is a Mersenne Number?

- In mathematics, a Mersenne number is a number that is one less than a power of two.
- That is, $M_n = 2^n - 1$, Where n is an integer.
- If n = 3, 2^3-1 = 7 (Mersenne)
- If n = 8, 2^8-1 = 255 (Mersenne)
- If n = 13, 2^{13}-1 = 8191 (Mersenne)
- More Examples : 0, 1, 3, 7, 15, 31, 63, 127, 255, 511, 1023, 2047, 4095, 819, etc

Final program

```
import java.util.*;
class perfect_square {
    public static void main(String[] Args) {
        int n, s=0 , p=1;
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter a number");
        n=sc.nextInt();
        while(s<=n){
            s=Math.pow(2,p) - 1;
           if(s == n) {
            System.out.println(“Mersenne");
            break;
      }
else if(s>n){
   System.out.println(“Not a Mersenne");
}
else{
   p++;
}
}
}
```