1. Add Digits

```
    int addDigits(int num) {
    while (num > 9) {
        int ans = 0;
        while (num > 0) {
            ans += num % 10;
            num /= 10;
        }
        num = ans;
    }
    return num;
}
```

2 . Leap Year

```
int isLeap(int N){
        //code here
          if(N%4==0 &&  N%100!=0)
        {
            return 1;
        }
        else if(N%400 == 0)
        {
            return 1;
        }
        else
        {
            return 0;
        }
    }
```

3. Reverse integer

```
int reverse(int x) {
    int r = 0;
    while (x) {
        if (r > INT_MAX / 10 || r < INT_MIN / 10) return 0;
        r = r * 10 + x % 10;
        x = x / 10;
    }
    return r;
}
```

4. Power of 2

```
bool isPowerOfTwo(int n) {
         if (n <= 0) {
        return false;
    }

    while (n > 1) {
        if (n % 2 != 0) {
            return false;
        }
        n /= 2;
    }

    return true;
    }
```

5. Sqrt

```
int mySqrt(int x) {
    for (double guess = 1; guess <= x; guess++) {
        if (guess * guess == x) {
            return (guess);
        } else if (guess * guess > x) {
            return (guess - 1);
        }
    }
    return 0;
}
```

6. Palindrome

```
  bool isPalindrome(int x) {
        int reversed = 0;
        int original = x;
        while (original > 0) {
              if(reversed > INT_MAX/10)
                return 0;
            reversed = 10 * reversed + original % 10;
            original /= 10;
        }
        return reversed == x;
    }
```

7. Complement of base 10 number

```
int bitwiseComplement(int n) {
        if (n == 0) {
            return 1;
        }

        int answer = 0;
        int power = 1;
        while (n) {
            answer += ((1 - (n % 2)) * power);
            n /= 2;
            power *= 2;
        }

        return answer;
    }
```

8. Ugly Number

```
bool isUgly(int n) {
        if (n == 0) return false;
        while (n % 2 == 0) {
            n /= 2;
        }
        while (n % 3 == 0) {
            n /= 3;
        }
        while (n % 5 == 0) {
            n /= 5;
        }
        return n == 1;
```

```
    }
```

9. Squares in N*N Chessboard

```
long long squaresInChessBoard(long long N) {
    long long ans = 1;

    if (N == 1) return ans;

    long long sum = 0;

    for (long long i = 1; i <= N; i++) {
        sum += i * i;
    }

    return sum;
}
```