Section 1

1. Factorial of a number
2. Area of a circle
3. Leap year or not (Same as 2.1)
4. GCD of two number
5. Check whether a given number is a prime number or not
6. Print all prime numbers in a given range
7. Check whether a given number is a Strong number or not
8. Chcek whether a number is a Palindrome or not
9. Check whether a string is a Palindrome or not
10. Check whether a given number is an Armstrong number or not
11. Print all Armstrong numbers between two intervals
12. Fibonacci series generation upto N terms

13. Binary to decimal conversion
14. Decimal to binary conversion
15. Decimal to octal conversion
16. Octal to decimal conversion
17. Binary to octal conversion
18. Octal to binary conversion

19. Sum of all prime numbers within a range
20. Reversing a given number
21. Reverse a string
22. Pyramid pattern using stars
23. Pyramid pattern using numbers
24. Diamond pattern printing using stars
25. Diamond pattern printing using numbers
26. Second smallest element in an array
27. Remove duplicate elements in an array
28. Check if number is biPrime Number

Section 2

1. **Checking if a given year is leap year or not**
2. **Prime Numbers with a Twist**
    - **Ques. Write a code to check whether no is prime or not. Condition use function check() to find whether entered no is positive or negative ,if negative then enter the no, And if yes pass no. as a parameter to prime() and check whether no. is prime or not?**
        - **Whether the number is positive or not, if it is negative then print the message "please enter the positive number"**
        - **It is positive then call the function prime and check whether the take positive number is prime or not.**
3. **Number Series with a Twist – 1**
    - **Find the 15th term of the series?**
    - **0,0,7,6,14,12,21,18, 28**
    - **Explanation : In this series the odd term is increment of 7 {0, 7, 14, 21, 28, 35 – – – – – – }**
    - **And even term is a increment of 6 {0, 6, 12, 18, 24, 30 – – – – – – }**
4. **Number Series with a Twist 2**
    - **Link to this Question**
    - **Consider the following series: 1, 1, 2, 3, 4, 9, 8, 27, 16, 81, 32, 243, 64, 729, 128, 2187 …**
    - **This series is a mixture of 2 series – all the odd terms in this series form a geometric series and all the even terms form yet another geometric series. Write a program to find the Nth term in the series.**
    - **The value N in a positive integer that should be read from STDIN. The Nth term that is calculated by the program should be written to STDOUT. Other than value of n th term,no other character / string or message should be written to STDOUT. For example , if N=16, the 16th term in the series is 2187, so only value 2187 should be printed to STDOUT.**
    - **You can assume that N will not exceed 30.**
5. **Number Series with a Twist 3**
    - **Link to this Question –**
    - **Consider the below series :**
    - **0, 0, 2, 1, 4, 2, 6, 3, 8, 4, 10, 5, 12, 6, 14, 7, 16, 8**
    - **This series is a mixture of 2 series all the odd terms in this series form even numbers in ascending order and every even terms is derived from the previous term using the formula (x/2)**
    - **Write a program to find the nth term in this series.**
    - **The value n in a positive integer that should be read from STDIN the nth term that is calculated by the program should be written to STDOUT. Other than the value of the nth term no other characters /strings or message should be written to STDOUT.**
    - **For example if n=10,the 10 th term in the series is to be derived from the 9th term in the series. The 9th term is 8 so the 10th term is (8/2)=4. Only the value 4 should be printed to STDOUT.**
    - **You can assume that the n will not exceed 20,000.**
6. **String with a Twist**
    - **Link to this Questions**
    - **1. The program will receive 3 English words inputs from STDIN**
        - **These three words will be read one at a time, in three separate line**
        - **The first word should be changed like all vowels should be replaced by %**
        - **The second word should be changed like all consonants should be replaced by #**
        - **The third word should be changed like all char should be converted to upper case**
        - **Then concatenate the three words and print them**

- **Other than these concatenated word, no other characters/string should or message should be written to STDOUT**
- **For example if you print how are you then output should be h%wa#eYOU.**
- **You can assume that input of each word will not exceed more than 5 chars**

7. **Addition of two numbers a Twist**
   - **1. Using a method, pass two variables and find the sum of two numbers.**
   - **Test case:**
   - **Number 1 – 20**
   - **Number 2 – 20.38**
   - **Sum = 40.38**
   - **There were a total of 4 test cases. Once you compile 3 of them will be shown to you and 1 will be a hidden one. You have to display error message if numbers are not numeric.**
8. **Consider the below series :**
   - **0, 0, 2, 1, 4, 2, 6, 3, 8, 4, 10, 5, 12, 6, 14, 7, 16, 8**
   - **This series is a mixture of 2 series all the odd terms in this series form even numbers in ascending order and every even terms is derived from the previous term using the formula (x/2)**
   - **Write a program to find the nth term in this series.**
   - **The value n in a positive integer that should be read from STDIN the nth term that is calculated by the program should be written to STDOUT. Other than the value of the nth term no other characters /strings or message should be written to STDOUT.**
   - **For example if n=10,the 10 th term in the series is to be derived from the 9th term in the series. The 9th term is 8 so the 10th term is (8/2)=4. Only the value 4 should be printed to STDOUT.**
   - **You can assume that the n will not exceed 20,000.**

Section 3

TCS Ninja Coding questions – Important instructions

Instructions

1) Only One question, 20 minutes.
2) Choice of C / C++ / Java / Perl / Python 2.7.
3) Provided an IDE to debug.
4) For Java, the class name should be named Maze.
5) Input to the program either through STDIN / Command line arguments, as per the instructions.
6) Program should write the output to STDOUT.
7) Public and private test cases based evaluation.

Points to note

1) While printing the output no leading or trailing spaces should be printed.
2) Other than the required output, no other text should be printed.
3) If the output is a number, no leading sign must be printed unless it is a negative number.
4) No scientific notation (3.9265E + 2).
5) All floating point numbers must contain that many decimal places as mentioned in the question.

TCS Ninja Coding Questions 2019 with solutions

Note The below given questions were asked in TCS Ninja National Qualifier test 2018.

TCS Ninja coding questions – 1

Consider the below series:

1, 2, 1, 3, 2, 5, 3, 7, 5, 11, 8, 13, 13, 17, …

This series is a mixture of 2 series – all the odd terms in this series form a Fibonacci series and all the even terms are the prime numbers in ascending order.

Write a program to find the Nth term in this series.

The value N is a Positive integer that should be read from STDIN. The Nth term that is calculated by the program should be written to STDOUT. Other than the value of Nth term, no other characters/strings or message should be written to STDOUT.

For example, when N = 14, the 14th term in the series is 17. So only the value 17 should be printed to STDOUT.

Solution in C

```
#include<stdio.h>
#define MAX 1000
void fibonacci(int n)
```

```
{
int i, t1 = 0, t2 = 1, nextTerm;
for (i = 1; i<=n; i++)
{
nextTerm = t1 + t2;
t1 = t2;
t2 = nextTerm;
}
printf("%d", t1);
}
void prime(int n)
{
int i, j, flag, count =0;
for (i=2; i<=MAX; i++)
{
flag = 0;
for (j=2; j<i; j++)
{
if(i%j == 0)
{
flag = 1;
break;
}
}
if (flag == 0)
if(++count == n)
{
printf("%d", i);
break;
}
}
}
int main()
{
int n;
scanf("%d", &n);
if(n%2 == 1)
fibonacci (n/2 + 1);
else
prime(n/2);
return 0;
}
```

Solution in C++

```
#include<iostream>
using namespace std;
#define MAX 1000

void fibonacci(int n)
{
int i, t1 = 0, t2 = 1, nextTerm;
for (i = 1; i<=n; i++)
{
nextTerm = t1 + t2;
t1 = t2;
t2 = nextTerm;
}
cout << t1;
}
void prime(int n)
{
```

```
int i, j, flag, count =0;
for (i=2; i<=MAX; i++)
{
flag = 0;
for (j=2; j<i; j++)
{
if(i%j == 0)
{
flag = 1;
break;
}
}
if (flag == 0)
if(++count == n)
{
cout << i;
break;
}
}
}
int main()
{
int n;
cin >> n;
if(n%2 == 1)
fibonacci (n/2 + 1);
else
prime(n/2);
return 0;
}
```

Output:

Input: 14
Output: 17

TCS Ninja coding questions – 2

Given a series whose even term creates a separate geometric series and odd term creates another geometric series. Write a program to generate such series.
For example,
1, 1, 2, 2, 4, 4, 8, 8, 16, 16,……

Solution in C

```
#include

int main()
{
int n, i, r1, r2;
printf("\nEnter the total number of terms : ");
scanf("%d", &n);
printf("\nEnter the common ratio for GP - 1 : ");
scanf("%d", &r1);
printf("\nEnter the common ratio for GP - 2 : ");
scanf("%d", &r2);
```

```
printf("\nThe series is\n");
int a = 1, b = 1;
if(n % 2 == 0)
{
for(i = 0; i < n/2; i++)
{
printf("%d ", a);
a = a * r1;
printf("%d ", b);
b = b * r2;
}
}
else
{
for(i = 0; i < n/2; i++)
{
printf("%d ", a);
a = a * r1;
printf("%d ", b);
b = b * r2;
}
printf("%d ", a);
}
printf("\n");

}
```

Solution in C++

```
#include<iostream>
using namespace std;

int main()
{
int n, i, r1, r2;
cout << "\nEnter the total number of terms : ";
cin >> n;
cout << "\nEnter the common ratio for GP - 1 : ";
cin >> r1;
cout << "\nEnter the common ratio for GP - 2 : ";
cin >> r2;
cout << "\nThe series is\n";
int a = 1, b = 1;
if(n % 2 == 0)
{
for(i = 0; i < n/2; i++)
{
cout << a << " ";
a = a * r1;
cout << b << " ";
b = b * r2;
}
}
else
{
for(i = 0; i < n/2; i++)
{
cout << a << " ";
a = a * r1;
cout << b << " ";
b = b * r2;;
}
```

```
cout << a << " ";
}
cout << endl;
}
```

Input:

```
Enter the number of terms : 10
Enter the common ratio for G.P - 1 : 2
Enter the common ratio for G.P - 2 : 3
```

Output:

```
The series is
1  1  2  3  4  9  8  27  16  81
```

Most asked TCS Ninja Coding questions so far

TCS Ninja coding questions range from **easy to medium difficulty level**. TCS Ninja coding test questions generally get repeated from the same set of concepts and programs. Here are some of the **most asked TCS Coding questions** in all possible languages are given.

1. Factorial of a number
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