

Assignment - 4

25-11-25

1. Strong Number.

for example, 145 is a strong number because;

$$1! + 4! + 5! = 1 + 24 + 120 = 145.$$

Ans:

```
#include <stdio.h>

int main() {
    int num, temp, digit;
    int sum = 0, fact;
    printf("enter a number : ");
    scanf("%d", &num);

    temp = num;
    while (temp > 0) {
        digit = temp % 10;
        // calculate factorial of digit
        fact = 1;
        for (int i = 1; i <= digit; i++) {
            fact *= i;
        }
        sum += fact;
        temp /= 10;
    }
    if (sum == num)
        printf("%d is a strong number\n", num);
    else
        printf("%d is not a strong number\n", num);
    return 0;
}
```

Output:-

• Enter a number : 145

145 is a strong number.

• Enter a number : 123

123 is not a strong number.

2. Perfect number,

That is equal to sum of its proper positive divisors excluding the number itself) for example, 6 is a perfect number because its proper divisors are 1, 2, and 3 and their sum ($1+2+3$) is equal to 6.

Ans:-

```
#include <stdio.h>

int main() {
    int num, sum = 0;

    printf("enter a number : ");
    scanf("%d", &num);

    for (int i=1; i < num; i++) {
        if (num % i == 0) {
            sum = sum + i;
        }
    }

    if (sum == num)
        printf("%d is a perfect number\n", num);
    else
        printf("%d is not a perfect number\n", num);
}
```

```
    printf("n%d is not a Perfect number\n", num);
```

```
    return 0;
```

```
}
```

Output :-

- Enter a number : 6

6 is a Perfect number.

- Enter a number : 10

10 is not a Perfect number.