

1) Strong number

for example 145 is a strong number because:  
 $1! + 4! + 5! = 1 + 24 + 120 = 145$ .

2) Perfect number.

that is equal to the sum of its proper

strong number:-

```
#include <stdio.h>
```

```
int factorial (int n) {
```

```
    int fact = 1;
```

```
    for (int i = 1; i <= n; i++)
```

```
        fact *= i;
```

```
    return fact;
```

```
}
```

```
int main () {
```

```
    int num, temp, sum = 0;
```

```
    printf ("Enter a number:");
```

```
    scanf ("%d", &num);
```

```
    temp = num;
```

```
    while (temp > 0) {
```

```
        int digit = temp % 10;
```

```
        sum += factorial (digit);
```

```
        temp /= 10;
```

```
    }
```

```
    if (sum == num)
```

```
        printf ("%d is a strong Number", num);
```

```
    else
```

```
        printf ("%d is not a strong Number", num);
```

```
    return 0;
```

```
}
```

Perfect number:-

```
#include <stdio.h>
#include <math.h>
#include <stdbool.h>

bool is_perfect(int n) {
    if (n <= 1) return false;
    int sum = 1;
    int r = (int) sqrt(n);
    for (int d = 2; d <= r; ++d) {
        if (n % d == 0) {
            sum += d;
            int other = n / d;
            if (other != d) sum += other;
        }
    }
    return sum == n;
}

int main() {
    int limit = 10000;
    printf("Perfect numbers up to %d: \n", limit);
    for (int i = 2; i <= limit; ++i) {
        if (is_perfect(i)) printf("%d\n", i);
    }
    return 0;
}
```