

```

1: #include <iostream>
2: using namespace std;
3:
4: int main(){
5:
6:     int num, sum = 1, digit;
7:
8:     cout << "Enter an integer number: ";
9:     cin >> num;
10:
11:     while (num > 0){
12:         digit = num % 10;
13:         cout << digit;
14:         sum = sum * digit;
15:         num = num / 10;
16:         if (num > 0){
17:             cout << " * ";
18:         }
19:     }
20:
21:     cout << " = " << sum << endl;
22:
23:     if ((sum % 2 == 0)&&(sum % 3 == 0)&&(sum % 5 == 0)){
24:         cout << sum << " is even number & multiples of 3 and 5";
25:     }else if ((sum % 2 == 0)&&(sum % 3 == 0)){
26:         cout << sum << " is even number & multiples of 3";
27:     }else if ((sum % 2 == 0)&&(sum % 5 == 0)){
28:         cout << sum << " is even number & multiples of 5";
29:     }else if (sum % 2 == 0){
30:         cout << sum << " is even number";
31:     }else if ((sum % 2 == 1)&&(sum % 3 == 0)&&(sum % 5 == 0)){
32:         cout << sum << " is odd number & multiples of 3 and 5";
33:     }else if ((sum % 2 == 1)&&(sum % 3 == 0)){
34:         cout << sum << " is odd number & multiples of 3";
35:     }else if ((sum % 2 == 1)&&(sum % 5 == 0)){
36:         cout << sum << " is odd number & multiples of 5";
37:     }else if (sum % 2 == 1){
38:         cout << sum << " is odd number";
39:     }
40:
41:     return 0;
42: }

```