

```
//Answer on question #38808, Programming, C++
```

```
#include <iostream>
```

```
using namespace std;
```

```
class reverse
```

```
{
```

```
public:
```

```
    static int reverse_while(int n)
```

```
    {
```

```
        int sign = n > 0 ? 1 : -1;
```

```
        int inv = 0;
```

```
        n = n * sign;
```

```
        while (n > 0)
```

```
        {
```

```
            inv = inv * 10 + (n % 10);
```

```
            n /= 10;
```

```
        }
```

```
        return inv * sign;
```

```
    }
```

```
    static int reverse_do_while(int n)
```

```
    {
```

```
        int sign = n > 0 ? 1 : -1;
```

```
        int inv = 0;
```

```
        n = n * sign;
```

```
        do
```

```
        {
```

```
            inv = inv * 10 + (n % 10);
```

```
            n /= 10;
```

```
        } while (n > 0);
```

```
        return inv * sign;
```

```
    }
```

```
    static int reverse_for(int n)
```

```
    {
```

```
        int sign = n > 0 ? 1 : -1;
```

```
        int inv = 0;
```

```
        n = n * sign;
```

```
        for (; n > 0; n /= 10)
```

```
        {
```

```
            inv = inv * 10 + (n % 10);
```

```
        }
```

```
        return inv * sign;
```

```
    }
```

```
};
```

```
int main(int argc, char* argv[])
{
    int n;
    cout << "input number:" << endl;
    cin >> n;
    cout << "reverse using:" << endl;
    cout << "\twhile : " << reverse::reverse_while(n) << endl;
    cout << "\tdo while: " << reverse::reverse_do_while(n) << endl;
    cout << "\tfor : " << reverse::reverse_for(n) << endl;
    return 0;
}
```