

```
1 #include <stdio.h>
2
3 long long factorial(int n) {
4     long long result = 1;
5     if (n < 0) {
6         printf("Factorial is not defined for negative numbers.\n");
7         return 0;
8     }
9     else if (n == 0) {
10         return 1;
11     }
12     else {
13         for (int i = 1; i <= n; i++) {
14             result *= i;
15         }
16         return result;
17     }
18 }
19
20 int main() {
21     int num;
22     scanf("%d", &num);
23     long long fact = factorial(num);
24     if (num >= 0) {
25         printf("Factorial of %d is %lld\n", num, fact);
26     }
27     return 0;
28 }
```

```
1 #include <stdio.h>
2
3 long long factorial(int n) {
4     if (n == 0 || n == 1) {
5         return 1;
6     }
7     else {
8         long long fact;
9         fact = n * factorial(n - 1);
10        return fact;
11    }
12 }
13
14 int main() {
15     int num=5;
16     if (num < 0) {
17         printf("Factorial is not defined for negative numbers.\n");
18     } else {
19         printf("Factorial of %d = %lld\n", num, factorial(num));
20     }
21     return 0;
22 }
```

```

1 #include <stdio.h>
2
3 int sumofN(int n) {
4     if (n == 0) {
5         return 0;
6     }
7     else {
8         return n + sumofN(n - 1);
9     }
10 }
11
12 int main() {
13     int num;
14     scanf("%d", &num);
15     printf("Sum of first %d natural numbers = %d\n", num, sumofN(num));
16     return 0;
17 }

```

```
1 #include <stdio.h>
2
3 int fib(int n) {
4     if (n <= 1) {
5         return n;
6     } else {
7         return fib(n - 1) + fib(n - 2);
8     }
9 }
10
11 int main() {
12     int n;
13     scanf("%d", &n);
14     if (n < 0) {
15         printf("Fibonacci numbers are not defined for negative numbers.\n");
16     } else {
17         printf("The %dth Fibonacci number is: %d\n", n, fib(n));
18     }
19     return 0;
20 }
```



```
1 #include <stdio.h>
2
3 int main() {
4     long long int n;
5     int k;
6     scanf("%lld", &n);
7     if (n == 0) {
8         printf("Error: The integer cannot be zero.\n");
9     }
10
11     scanf("%d", &k);
12     if (k == 0) {
13         printf("Error: The divisor k cannot be zero.\n");
14     }
15     if (n % k == 0) {
16         printf("%lld is divisible by %d.\n", n, k);
17     } else {
18         printf("%lld is not divisible by %d.\n", n, k);
19     }
20     return 0;
21 }
```

```
1 #include <stdio.h>
2 int main(){
3     char str1[10],str2[10],str3[10];
4     scanf("%s",str1);
5     scanf("%s",str2);
6     scanf("%s",str3);
7     printf("%s\n%s\n%s",str3,str2,str1);
8     return 0;
9 }
```

```
1 #include <stdio.h>
2 #include <string.h>
3
4 int main() {
5     int n;
6     scanf("%d", &n);
7     while(n--){
8         char str[100];
9         char temp;
10        int i, j;
11        scanf("%s", str);
12        int length = strlen(str);
13        for (i = 0, j = length - 1; i < j; i++, j--) {
14            temp = str[i];
15            str[i] = str[j];
16            str[j] = temp;
17        }
18        printf("Reversed string: %s\n", str);
19    }
20    return 0;
21 }
```

```
1 #include<stdio.h>
2 #include<string.h>
3 int main()
4 {
5     int t;
6     scanf("%d",&t);
7     while(t--)
8     {
9         int flag=1;
10        char s[100000];
11        scanf("%s",s);
12        int k=strlen(s);
13
14        if(k==10)
15        {
16            for(int i=0;i<10;i++)
17            {
18                if(s[i]!='0')
19                {
20                    flag=0;
21                    break;
22                }
23                if(s[i]<'0' || s[i]>'9')
24                {
25                    flag=0;
26                    break;
27                }
28            }
29        }
30        else
31            flag=0;
32        if(flag==1)
33            printf("YES\n");
34        else
35            printf("NO\n");
36    }
37    return 0;
38
39 }
```



```
1 #include <stdio.h>
2
3 float average(int arr[], int n) {
4     int sum = 0;
5     for (int i = 0; i < n; i++) {
6         sum += arr[i];
7     }
8     return (float)sum / n;
9 }
10
11 int main() {
12     int n;
13     scanf("%d", &n);
14     int numbers[n];
15     printf("Enter %d numbers:\n", n);
16     for (int i = 0; i < n; i++) {
17         scanf("%d", &numbers[i]);
18     }
19     float avg = average(numbers, n);
20     printf("The average of the numbers is: %.2f\n", avg);
21     return 0;
22 }
```