

```
1 public class factorial
2 {
3     public static void main(String[] args)
4     {
5         System.out.println("1" + prob1(10));
6         System.out.println("2" + prob2(10));
7         System.out.println("3" + prob3(10));
8         System.out.println("4" + prob4(10));
9         System.out.println("5" + prob5(10));
10        System.out.println("6" + prob6(10));
11        System.out.println("7" + prob7(10));
12        System.out.println("8" + prob8(10));
13        System.out.println("9" + prob9(10));
14        System.out.println("10" + prob10(10));
15    }
16
17    public static int prob1(int n)
18    {
19        // when n = 1 return 6
20        // a(n) = a(n-1) + 200
21        if (n == 1)
22        {
23            return 6;
24        }
25        else
26        {
27            return prob1(n - 1) + 200;
28        }
29    }
30
31    public static int prob2(int n)
32    {
33        if (n == 1)
34        {
35            return 26;
36        }
37        else
38        {
39            return (2 + prob2(n - 1)) / 2;
40        }
41    }
42
43    public static int prob3(int n)
44    {
45        if (n == 1)
46        {
47            return -4;
48        }
49        else
50        {
51            return prob3(n - 1) + 2;
52        }
53    }
54
55    public static int prob4(int n)
56    {
57        if (n == 1)
58        {
59            return 10;
60        }
61        else
62        {
63            return prob4(n - 1) + 1;
64        }
65    }
66
67    public static int prob5(int n)
68    {
69        if (n == 1)
70        {
71            return 10;
72        }
73        else
74        {
75            return prob5(n - 1) + 1;
76        }
77    }
78
79    public static int prob6(int n)
80    {
81        if (n == 1)
82        {
83            return 10;
84        }
85        else
86        {
87            return prob6(n - 1) + 1;
88        }
89    }
90
91    public static int prob7(int n)
92    {
93        if (n == 1)
94        {
95            return 10;
96        }
97        else
98        {
99            return prob7(n - 1) + 1;
100       }
```

```
        {
            return prob3(n - 1) + 30;
        }
    }

    public static double prob4(int n)
    {
        if (n == 1)
        { return 0.5; }
        else
        { return (prob4(n - 1) * 2); }
    }

    public static int prob5(int n)
    {
        if (n == 1)
        { return 3; }
        else
        { return (prob5(n - 1) + n); }
    }

    public static int prob6(int n)
    {
        if (n == 1)
        { return -1; }
        else
        { return (prob6(n - 1) + n); }
    }

    public static int prob7(int n)
    {
        if (n == 1)
        { return -35; }
        else
        { return (prob7(n - 1) + 100); }
    }

    public static int prob8(int n)
    {
        if (n == 1)
        { return 3; }
        else
        { return (prob8(n - 1) * -4); }
    }

    public static int prob9(int n)
    {
        if (n == 1)
        { return 1; }
        else
        { return (n * prob9(n - 1)); }
    }
}
```

```
public static int prob10(int n)
{
    if (n == 1)
    { return(5/3); }
    else
    { return(prob10(n - 1) * (1/2)); }
}
```