DSA - [CPP_QUESTION BANK]

1. Operators -

1. **What is the output of the following expression?**
   Input: 5 + 3 * 2
   Output: 11
2. **What will be the result of the following operation?**
   Input: 10 / 2 + 3 * 4
   Output: 17
3. **What is the value of variable a after the following conversion?**
   Input: double a = 5; int b = (int)a;
   Output: 5
4. **What is the result of this expression?**
   Input: 5 > 3 && 4 < 6
   Output: true

2. Control Structures -

5. **If a user enters -10, what will be the output?**
   Input: Enter a number: -10
   Output: Negative
6. **What is the grade for a student with 85 marks?**
   Input: Enter marks: 85
   Output: B
7. **For input 1, what is the output from the switch case?**
   Input: Enter day number (1-7): 1
   Output: Monday
8. **For input 3, what will the ternary operator output?**
   Input: a = 5, b = 10
   Output: 10 (for a > b ? a : b)

3. Looping -

1. **What pattern is printed with N=5?**
   Input: `Enter number of rows: 5`
   Output:
   ```
   *
   **
   ***
   ****
   *****
   ```

2. **What is the custom pattern output for N=4?**
   Input: `Enter number of rows: 4`
   Output:
   ```
   1
   12
   123
   1234
   ```

3. **For N=5, what is the diamond pattern output?**
   Input: `Enter number of rows: 5`
   Output:
   ```
       *
      ***
     *****
    *******
   ```

4. **What is the output for a pattern with spaces for N=3?**
   Input: `Enter number of rows: 3`
   Output:
   ```
      *
     ***
    *****
   ```

4. Additional Questions -

1. **What will be the output for N=4 when calculating the sum of digits?**
   Input: `Enter a number: 1234`
   Output: `10`
2. **For input 7, what is the sum of the digits?**
   Input: `Enter a number: 7`
   Output: `7`
3. **What is the output for the input "abcd"?**
   Input: `String: abcd`
   Output: `Length: 4`
4. **What is printed when a user enters 0?**
   Input: `Enter a number: 0`
   Output: `Zero`
5. **For input 12, what will be the output when checking even/odd?**
   Input: `Enter a number: 12`
   Output: `Even`
6. **What will be the result of input 1 for factorial?**
   Input: `Enter a number: 1`
   Output: `1`