1. Which of the following variable names are invalid (will cause compile error)?

   a. brownie
   b. 3Letter
   c. INT
   d. _double
   e. summerVaction!
   f. snowball

   **Ans: b, e**

2. What is the value of the following expressions:

   a. \( \frac{15}{(5 - 3 \mod 7)} \times 2.0 \)  **Ans: 14.0**
   b. \( 2.0 \times \frac{15}{(5 - 3 \mod 7)} \)  **Ans: 15.0**

3. How many times will the statement “In the loop” be printed to the console?

   ```
   int i = 25;
   do {
       cout << "In the loop" << endl;
       i = i / 2;
   } while (i != 0);
   ```

   **Ans: 5**

4. Rewrite the following control statement as a switch. Assume the variable \( a \) is declared as an int. (Lack of indentation is by design)

   ```
   if (a == 5)
       cout << "output 1" << endl;
   else if (a == 3)
       cout << "output 2" << endl;
   else if (a == 9)
       cout << "output 3" << endl;
   else
       cout << "output 4" << endl;
   ```
switch (a) {
    case 5: cout << "output 1" << endl;
           break;
    case 3: cout << "output 2" << endl;
           break;
    case 9: cout << "output 3" << endl;
           break;
    default: cout << "output 4" << endl;
}

5. For the following C++ program, indicate the output values in the spaces given below. Assume the program compiles and runs correctly.

```cpp
#include <iostream>
using namespace std;

const char TAB = '\t'; // Tabs the output for readability.

void foobar (int& a, int b, int c) {
    a = a + b;
    b = 7;
    c = mybar (b, a);
    cout << a << TAB << b << TAB << c << endl;
    return;
}

int mybar (int x, int& y) {
    int z = 200;
    x = y;
    y = 100;
    cout << x << TAB << y << TAB << z << endl;
    return z;
}

int main() {
    int x = -5;
    int y = 5;
    int z = 15;
    foobar (x, y, z);
    cout << x << TAB << y << TAB << z << endl;
    return 0;
}
```
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