Self-assessment questions

1. Is this a valid statement?

   ```
   int 1stNumber;
   ```

2. What are the values of the following expressions?

   ```
   4.+1./2., 5.*2./3., 4.-3.*5./10.
   ```

3. What is the value of a?

   ```
   int a = 4.+1./2.;
   ```

4. What is wrong with the following piece of code?

   ```
   int a = 5
   int b = 6;
   int c;
   c = a*b;
   ```

5. What is wrong with the following piece of code?

   ```
   int a;
   printf("Give me an integer\n");
   scanf("%d",a);
   ```

6. What is wrong with the following piece of code?

   ```
   int a[3];
   int i;
   for(i=1; i<4; ++i){
   a[i] = 0;
   }
   ```

7. What is wrong with the following piece of code?

   ```
   int i, j;
   for(i=0; j<10; ++i){
   for(j=0; j<3; ++j){
   printf("Hello\n");
   }}
   ```

8. The following piece of code is written to swap two numbers. What is wrong with it?

   ```
   int a=5;
   int b = 6;
   a=b;
   b=a;
   ```

Answers to self-assessment questions

1. No; a variable number cannot start with a number.
2. 4.5, 3.333333, 2.5 (Due to the predecence of the oeprators and their associativity)
3. 4 (Since the variable is an integer, the value of 1/2 is evaluated to be zero)
4. All valid C statements should end with a semi-colon. In the first line, the semi-colon is missing.
5. The scanf argument should be `& a` and not a.
6. The three components of a are a[0], a[1] and a[2]. a[3] is outside the declared memory and hence can lead to problems.
7. For the loop variable i, the condition checking should also be done on i and not on j.
8. One should use a dummy or temporary variable to store the value of a before assigning the value of b to it. Otherwise, both the variables carry the same value instead of swapping.