**Pseudocode:**

**Main function:**

1. define three functions called long pow(long, int), float pow(float, int), and double pow(double, int).
2. declare two variables named a1 as long integer data type, and n1 (power) as integer data type. Prompt user to enter the value of a1 and n1.
3. declare two variables named a2 as long integer data type, and n2 (power) as integer data type. Prompt user to enter the value of a2 and n2.
4. declare two variables named a3 as long integer data type, and n3 (power) as integer data type. Prompt user to enter the value of a3 and n3.
5. calculate the result, result2, and result3 by using the function we defined in first step.
6. output three results on the screen in formal.
7. return value.
8. implement the three functions.

**Function implementation #1:**

1. declare three variables named count=n as integer data type, and power=1, power2=a as long integer type.
2. use while loop to calculate the pow function until count is equal to 0.
3. use if statement to calculate power \*= power2, count- -; power2 \*= power2, power /= 2, when count is an odd number; only calculate the second part when count is an even number.
4. return the value of power.

**Function implementation #2:**

1. declare three variables named count=n as integer data type, and power=1, power2=a as float integer type.
2. use while loop to calculate the pow function until count is equal to 0.
3. use if statement to calculate power \*= power2, count- -; power2 \*= power2, power /= 2, when count is an odd number; only calculate the second part when count is an even number.
4. return the value of power.

**Function implementation #3:**

1. declare three variables named count=n as integer data type, and power=1, power2=a as double integer type.
2. use while loop to calculate the pow function until count is equal to 0.
3. use if statement to calculate power \*= power2, count- -; power2 \*= power2, power /= 2, when count is an odd number; only calculate the second part when count is an even number.
4. return the value of power.