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**Roll Number: 45**

**Experiment Number: 2**

**Title: Finding Number Power Using Loop**

**Theory:** The following code takes 2 values from users which represent the base and exponent. The result variable will store the value of base to power exponent. Exponent is used to determine the range of the for loop and repeat calculation of base that number of times, which results as (base^exponent). A copy variable is used to first get the exponential value of any number and then result it as a reciprocal, only when exponent is negative.

**Code:**

**//This code calculates the power of a number using a loop.**

**#include "iostream"**

**using namespace std;**

**int main() {**

**float num, result;**

**float pow, copy;**

**cout << "Enter a number: ";**

**cin >> num;**

**cout << "Enter power on the number: ";**

**cin >> pow;**

**copy = 1;**

**result=1;**

**if(pow >0){**

**for(int i=0; i<pow; i++) {**

**result \*= num;**

**}**

**}**

**else if(pow < 0){**

**// for(int i=pow+1; i<0; i++) {**

**// copy \*=num;**

**// }**

**// result = 1/copy;**

**for(int i=pow; i<0; i++) {**

**copy \*= num;**

**}**

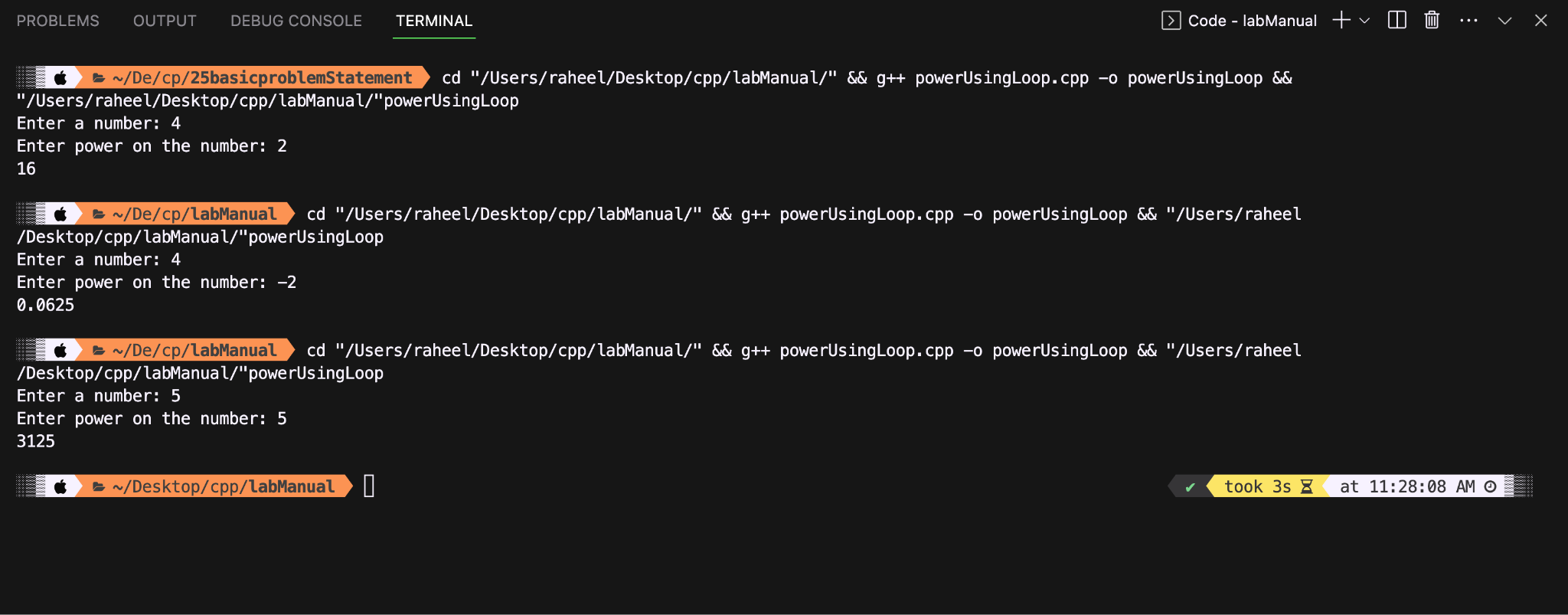
**result = 1/copy;**

**}**

**cout << result << endl;**

**return 0;**

**}**

**Output:(screenshot):**