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//CSE 4252 Lab1
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#include<iostream>

using namespace std;

int main()
{
     int exp, digit;
     double base, ans=1;
     char correct_num,correct_dig;
     bool error_flag=false;

     do
     {
      correct_num=' ';
      cout<<"Enter the number for your base and exponent, separate with space:";
      cin>>base>>exp;
      error_flag=cin.fail();
      cin.clear();
      cin.ignore(200, '\n');

      if(error_flag)
      {
           cout<<"Input(s) is invalid\n";
           correct_num='n';
      }
      else
      {
           cout<<"The base you entered is "<<base<<
                  " and the exponent you entered is "<<exp<<"\n";

           while(tolower(correct_num)!='y' && tolower(correct_num)!='n')
           {
            cout<<"Are these numbers correct? (Y/N) ";
            cin>>correct_num;
           }
      }

     }
     while(tolower(correct_num)=='n');

     if(base!=0)
     {
      int exp_counter=exp;
      if(exp<0)
      {
           exp_counter=exp_counter*(-1);
      }
      for(int i=0;i<exp_counter;i++)
      {
           ans=ans*base;
      }
      if(exp<0)
      {
           ans=1/ans;
      }
     }
```

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	do
	{
	 correct_dig=' ';
	 cout<<"How many digits after the deciaml point should be used? ";
	 cin>>digit;
	 cout<<base<<" to the power of "<<exp<<" is ";
	 cout.precision(digit);

	 if(base==0)
	 {
		if(exp==0)
		{
		 cout<<"undefined\n";
		}
		else
		{
		 ans=0;
		 cout<<fixed<<ans<<"\n";
		}
	 }
	 else
	 {
		cout<<fixed<<ans<<"\n";
	 }

	 while(tolower(correct_dig)!='y' && tolower(correct_dig)!='n')
		{
		 cout<<"Display result with different number of digits"
			<<" after the decimal point? (Y/N) ";
		 cin>>correct_dig;
		}

	}
	while(tolower(correct_dig)=='y');

	cout<<"Thank you for using!\n";

	return 0;
}
```