Code:

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| #include <iostream>  #include <math.h> //It is used for Power function  #include <limits.h> // It is used for INT\_MAX  using namespace std;  int main() {    int x,y,z,n; //variables for the equation  int lowerlimit\_k = 10; // lower limit of K specified in the requirements  int upperlimit\_k = 50;// upper limit of K that we gave manually  int nearest\_miss = INT\_MAX; // maximum value is assigned to nearest miss  int analyzetime; // How many time the equation will be solved with different values of x and y in one run of program  cout<<"How many times you want to Analyze :: ";  cin>>analyzetime; //take this input from user  for (int i =0; i<analyzetime; i++) //this forloop will solve the equation analyzetime times  {  bool check = false;  while(check!=true) // this while loop is taking inputs and checking the conditions if condition will be wrong then it will help the user to take the input right after wrong entry  {  cout<<"Enter x = ";  cin>>x;  cout<<"Enter y = ";  cin>>y;  cout<<"Enter n = ";  cin>>n;  //check the values of x, y and n that they are in specified range  if((x>=lowerlimit\_k && x<=upperlimit\_k) && (y>=lowerlimit\_k && y<=upperlimit\_k) && (n>2))  {  check = true; // means input is in the correct range  }  }  // first step of equation x square + y square and store the result in xplusy  long xplusy = (int) (pow (x, n) + pow (y, n));  // taking the n root of xplusy value and which will be equal to z  z = (int) pow (xplusy, 1.0/n);  //finding the miss value  int miss = xplusy - pow (z, n);  //calculating the relative miss  double relative\_miss = 100. \* miss / xplusy;  cout<<"\nMiss ==> "<< miss <<" \*=========\* Relative Miss ==> "<<relative\_miss<<endl;  //to set the latest nearest miss value  if(relative\_miss<nearest\_miss)  {  nearest\_miss = relative\_miss;  }  cout<<"Nearest Miss ==> "<<nearest\_miss<<endl;  }    cout<<" Task Completed "<<endl;  return 0;  } |

Output:

