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// FAISAL RASOOL QAZI
// 455689
// ME-15
// SECTION-B

//PROJECT 1
#include <iostream>
using namespace std;
int main(){
   int number=6,fact=1;              //defining variables
   for(int i=number; i>=1; i--)      //applying for loop
   {fact=fact*i;                     //applying formula
   }
   cout<<fact;                       //taking output
}

//PROJECT 2
#include <cmath>
int main(){
   float d,x1,y1,x2,y2;              //defining variables
   cout<<"x1=" ;                     // taking input value of x1
   cin>>x1;
   cout<<"x2=";                      //taking input value of x2
   cin>>x2;
   cout<<"y1=";                      //taking input value of y1
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    cin>>y1;
    cout<<"y2=";                    //taking input value of y2
    cin>>y2;
    d=sqrt(pow((x2-x1),2)=pow((y2-y1),2));   //applying formula for distance between 2 points
    cout<<"DISTANCE="<<d;              //getting results
}

//PROJECT 3
float length,cm,metre,km;              //defining variables
int main(){
    cout<<"length in cm=";             //giving output
    cin>>cm;
    metre=cm/100;                      //converting metre into cm
    km=cm*100000                       //converting km into cm
    cout<<"length in metre="<<metre<<endl<<"length in km="<<km; //getting esults in merte
and km
}

//PROJECT 4
float a,b,P;                           //defining variables
int main (){
    cout<<"ENTER THE VALUE OF a AND b= "<<endl; //giving output
    cin>>a>>b;
    P=(a*a)+(2*a*b)+(b*b);             //applying formula for polynomial
    cout<<P;                           //getting results
}
```