Problem-1:

```
#include<bits/stdc++.h>
using namespace std;
main()
{
  long long int a,b,c,m,r;
   cout<<"Enter the numbers: ";
   cin>>a>>b>>c;
   cout<<"Enter Mod: ";
   cin>>m;
   r = ((a%m)*(b%m)*(c%m)%m);
   cout<<r;
}
```

Problem-2:

```
#include<bits/stdc++.h>
using namespace std;

long long int modulas(long long int b,long long int n,long long int m )
{
   long long int x;
   x = 1;
   long long int power = b%m;
   long long int rest;
   while(n!=0)
   {
      rest = n%2;
      n= n/2;
      if(rest==1)
      {
         x = (x*power)%m;
      }
      power  = (power*power)%m;
   }
   return x;
}
```

```
main()
{
   long long result,b,n,m;
   cout<<"Enter value of b: ";
   cin>>b;
   cout<<"Enter value of n: ";
   cin>>n;
   cout<<"Enter value of m: ";
   cin>>m;
   result = modulas(b,n,m);
   cout<<"The result is: ";
   cout<<result<<endl;
}
```

Problem-3:

```
#include<bits/stdc++.h>
using namespace std;
long long int findPrime(long long int n)
{
   if(n<2)
      return 0;

   int prime[100000];
   for(int i=0; i<=n; i++)
      prime[i] = 1;

   for (int i = 2; i <=sqrt(n) ; i++)
   {
      if(prime[i]==1)
      {
         for (int j = i*i; j <=n ; j=j+i)
         {
            prime[j] = 0;
         }
      }
   }
```

```
    for (int i = 2; i <=n ; i++)
    {
       if(prime[i] == 1)
          cout<<i << " ";
    }
}
main()
{
    long long int n;
    cout<<"Enter the value of n: ";
    cin>>n;
    cout<<"Prime numbers less than n=";
    findPrime(n);
}
```

Problem-4:

```
#include<bits/stdc++.h>
using namespace std;
long long int modulas(long long int b,long long int n, long long int m )
{
   long long int x;
   x = 1;
   long long int power = b%m;
   long long int rest;
   while(n!=0)
   {
      rest = n%2;
      n= n/2;
      if(rest==1)
      {
         x = (x*power)%m;
      }
      power  = (power*power)%m;
   }
   return x;
}
long long int M(string number, long long int m)
{
   long long int result=0, i =0,p;
```

```
    reverse(number.begin(), number.end());
    for(i = 0; i<number.length();i++)
    {
        long long int x=number[i]-'0';
        x=x%m;
        p = modulas(10,i,m);
        x=(x*p)%m;
        result=(result%m+x)%m;
    }
    return result;
}
int main()
{
    long long int result,b,n,m;
    string number;
    cout<<"Enter value of number: ";
    cin>>number;
    cout<<"Enter value of m: ";
    cin>>m;
    result = M(number,m);
    cout<<"The result is: ";
    cout<<result<<endl;
    return 0;
}
```