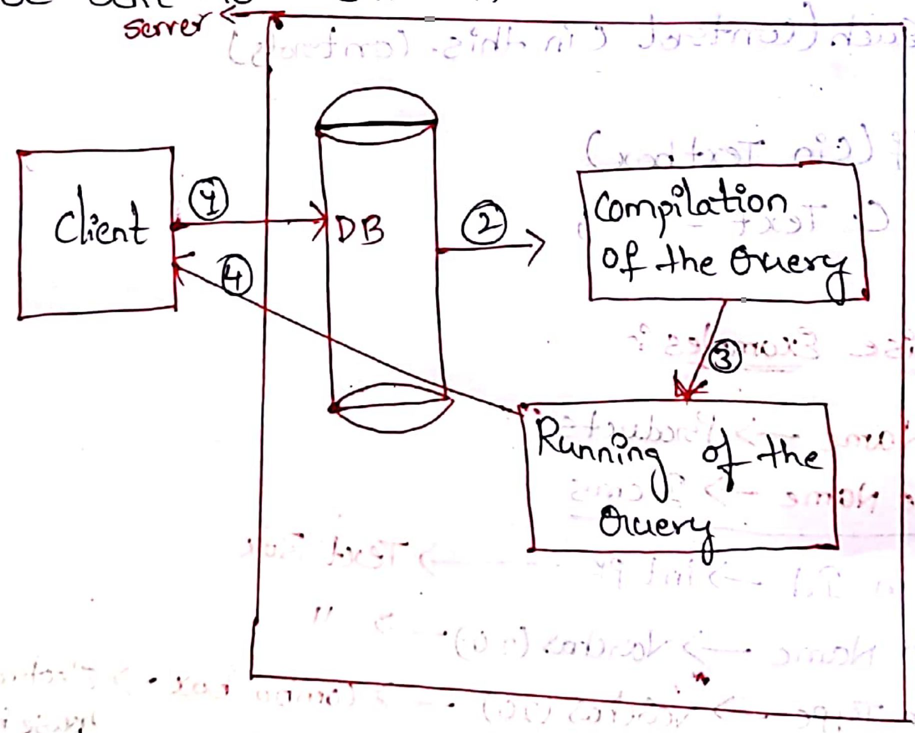
* How Query Will Work Internally?

Ans: In the above Example When Front End Encounters Cmd. Execute non Query method. then the prepared Query at front End, Will be Sent to database. At database side two Actions Will be performed.

1. Compilation of the Query
2. Running of the Query

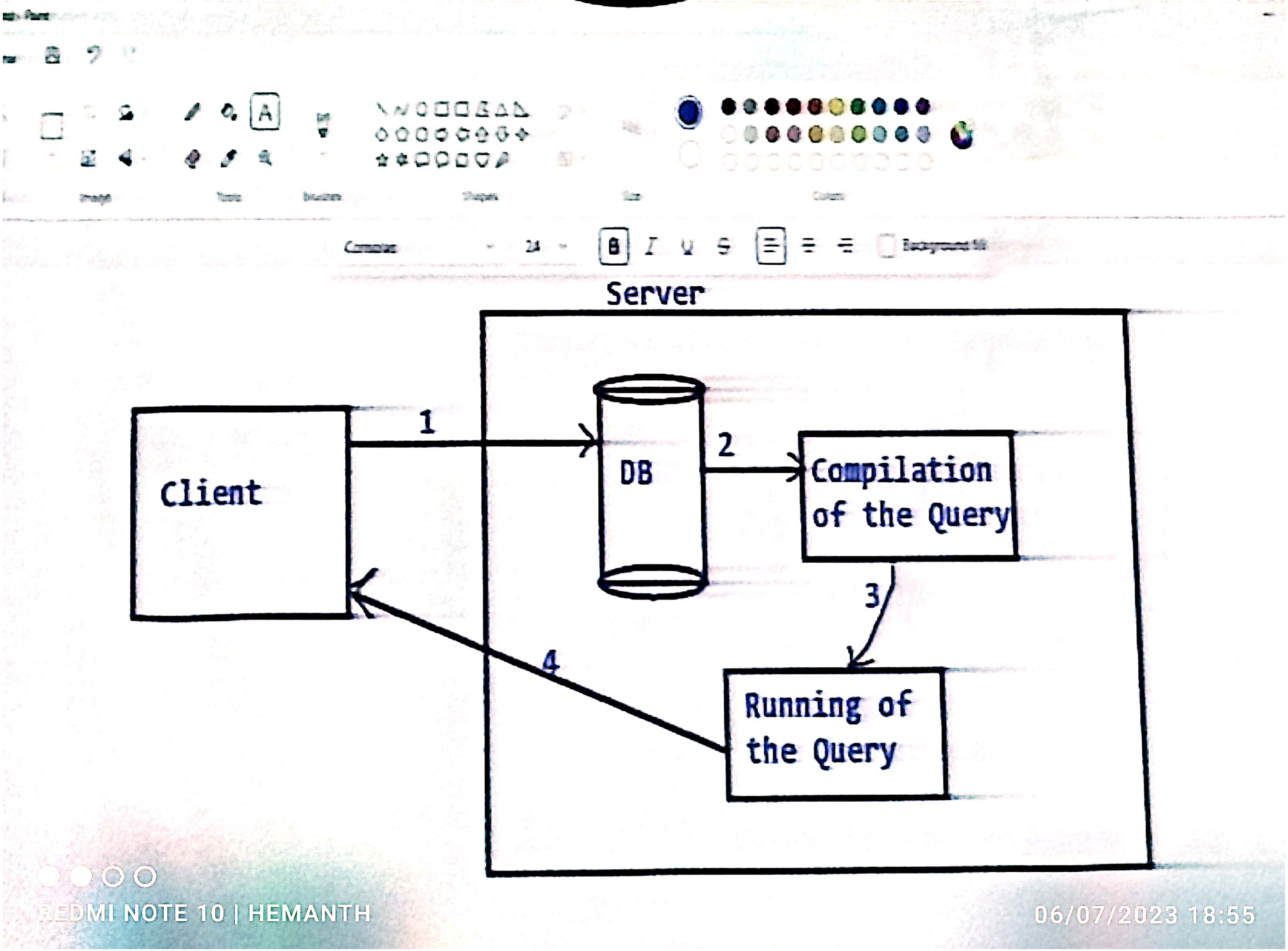
~~1. Compilation of the Query~~

During compilation of the Query, database Engine Will check for Syntactical Errors, if there are no Syntactical Errors Query Will be run i.e result Will be Sent to client Application.



Step-1: Client Application Will Send the Query to database.

Step-2: database Engine Will check for Syntactical Errors. if there are no Syntactical Errors, Query Will be compiled.


Server
Client
1
DB
2
Compilation of the Query
3
Running of the Query
4
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Step-3: Compiled Query Will run, and result Will be Generated.

Step-4: Run result is delivered to the client Application. once result is delivered to the client Application the Query compiled and Executed result at data base side is destroyed.

Disadvantages of non-parameterized query Method:-

* Necessary recompilation of the query again and again Will increase burden on the database and will reduce Application performance.

* There is possibility of sql injection ~~method~~ attacks, to overcome these drawbacks We use parameterized query method.

What are sql injection attacks:-

A hacker or Introder can inject another sql query or molishes Information from the user interface or When query is transfering over the network to the database. This Will create anomalous in database, Which is Very much Dangerous.

Book Details

Book Id → int (PK)

BName → Varchar(20)

AName → Varchar (20)

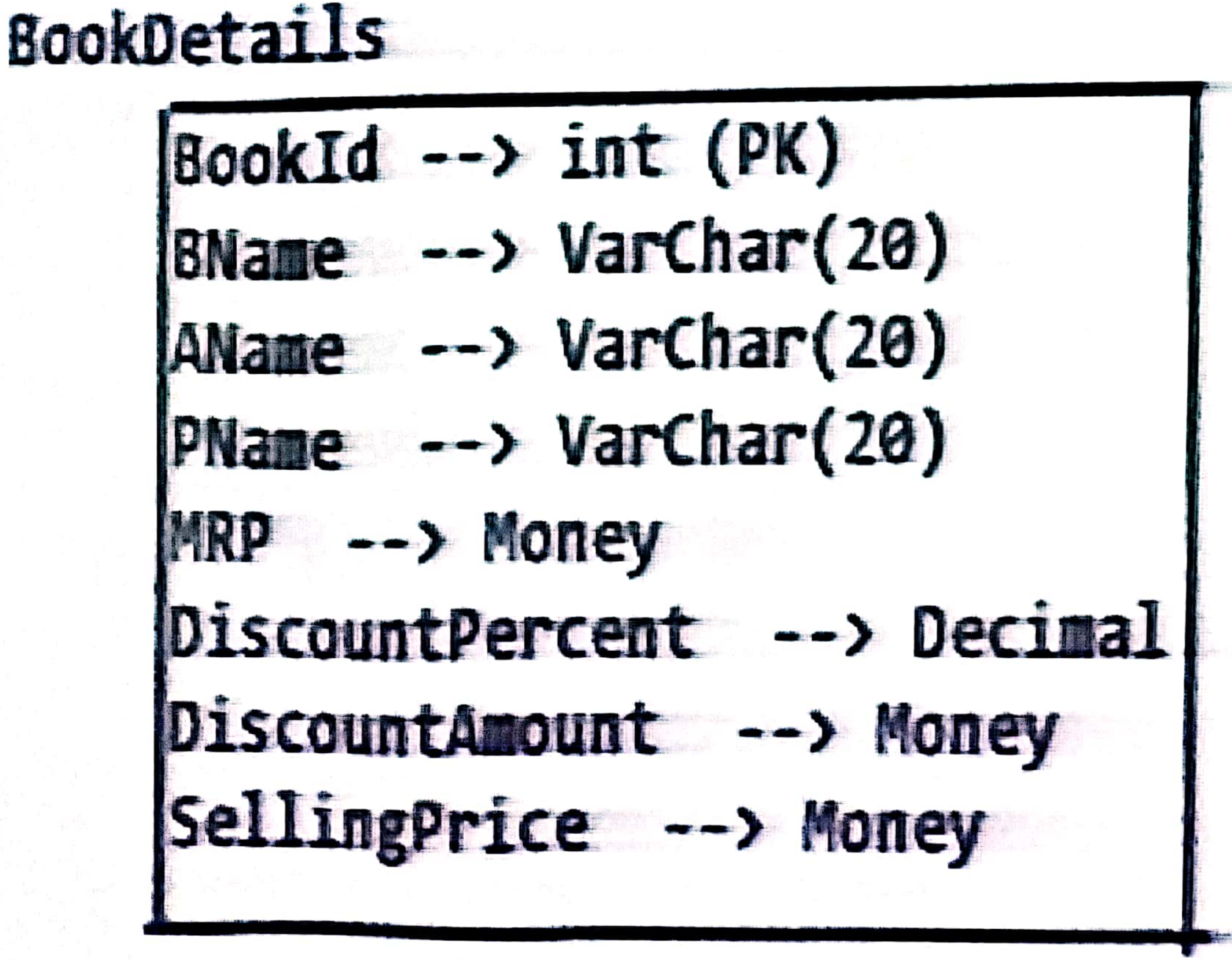
PName → Varchar(20)

MRP → Money

Discount percent → Decimal

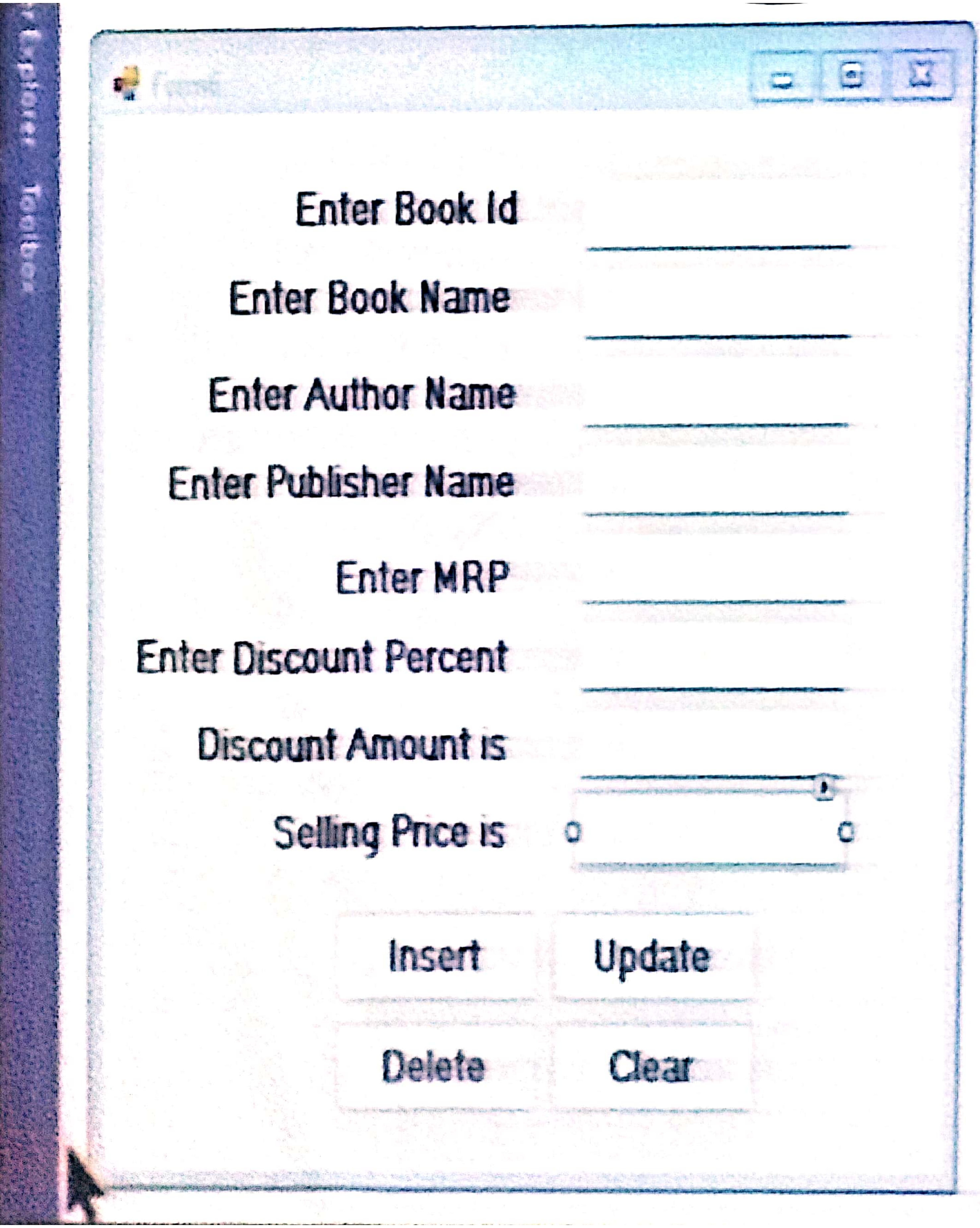
Discount Amount → money

Selling Price → money



```
BookDetails

BookId --> int (PK)
BName  --> VarChar(20)
AName  --> VarChar(20)
PName  --> VarChar(20)
MRP  --> Money
DiscountPercent  --> Decimal
DiscountAmount  --> Money
SellingPrice  --> Money
```



Enter Book Id

Enter Book Name

Enter Author Name

Enter Publisher Name

Enter MRP

Enter Discount Percent

Discount Amount is

Selling Price is

Enter book id □

Enter book Name □

Enter Author Name □

Enter publisher Name □

Enter MRP □

Enter discount percent □

Discount Amount is □

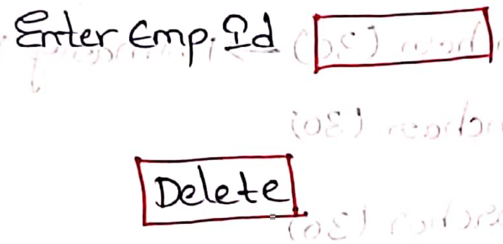
Selling price □

Insert | Update

delete | Clear

```
Private Void txtDper_TextChanged (object sender, Event
                                         Args e)
{
 double DAmount =0, SP=0;
  if (txtDper.Text.Length ! =0)
  {
  DAmount = (convert.To Double (txtMRP.Text) *
             convert. ToDouble (txtDper.Text))/100;
 txtDAmount . Text = DAmount. To string ( );
 Sp= Convert. To Double (txtMRP. Text) - DAmount;
 txtsp . Text = Sp. To string ( );
 }
 else
 {
 Txt DAmount. Clear ( );
 Txt sp . clear ( );
}
```

* Working With Parameterized Query Method:-



Code:-

```
Using system.data.~~client~~ sql client ;
Public partial class form7 : form
{
 string sql con string ="Server=SA?; User Id = $ ";
 Sql connection con;
}
Private void btndelete_click(object sender, Events Args e)
{
 Con= New Sqlconnection (sql con string);
 string query = "Delete Emp details Where EmpId=@P1";
 sql command cmd;
 Cmd = new SqlCommand (query, con);
 Cmd.Command Type = command Type.Text;
 Cmd.parameters.Add With Value("@P1", txtempId.Text);
 con.open();
 int Rows= cmd.ExecuteNon query();
 con.close();
 Message box.Show(Rows + "Record(s) deleted");
}
```

Country Details

Country Name → Varchar (30) → Primary Ke

Capital city → Varchar (30)

Prime minister → Varchar (30)

President → Varchar (30)

Currency Name → Varchar (30)

Population → long

Area → long

National Animal → Varchar (30)

National Bird → Varchar (30)

National sport → Varchar (30)

National Anthem → Varchar (max)