2. ADO .Net

(1) Write a program to count total number of students. Display total number of pass and fail students. (Connected access)

Code: 1.cs

```
using System;
using System.Data;
using System.Data.SqlClient;

namespace ADOPracticle1
{
    class Program
    {
        static void Main(string[] args)
        {
            String cs = @"Data Source=.\SQLEXPRESS; Initial catalog=TestDB; Integrated
Security=True ";
            SqlConnection cn = new SqlConnection(cs);
            cn.Open();
            string cq = "select count(*) from student_master";
            SqlCommand cd = new SqlCommand(cq, cn);
            int c = (int)cd.ExecuteScalar();
            string cq1 = "select count(*) from student_master where cpi>4";
            SqlCommand cd1 = new SqlCommand(cq1, cn);
            int c1 = (int)cd1.ExecuteScalar();
            string cq2 = "select count(*) from student_master where cpi<4";
            SqlCommand cd2 = new SqlCommand(cq2, cn);
            int c2 =(int) cd2.ExecuteScalar();
            Console.WriteLine("Total student= {0}", c);
            Console.WriteLine("Total passed student={0}", c1);
            Console.WriteLine("Total Fail student is={0}", c2);
        }
    }
}
```

Output:

Total student= 11
Total passed student=7
Total Fail student is=4

(2) Write a program to display result of a student given his enrollment number. (Connected access)

Code: 2.cs

```
using System;
using System.Data;
using System.Data.SqlClient;

namespace ADOPracticle2
{
    class Program
    {
        static void Main(string[] args)
        {

            string cs = @"Data Source=.\SQLEXPRESS;Initial Catalog=TestDB;Integrated
Security=True";
            SqlConnection cn = new SqlConnection(cs);
            cn.Open();
            Console.Write("Enter Student Enrollment Number to know the result:");
            int eno = int.Parse(Console.ReadLine());
            String cq = "select enroll,cpi from student_master where enroll=" + eno;
            SqlCommand cd = new SqlCommand(cq, cn);
            SqlDataReader dr = cd.ExecuteReader();
            Console.WriteLine("{0,4}\t{1,4}", "Enrollment","Cpi");
            while (dr.Read())
            {
                Console.WriteLine("{0,4}\t{1,4}", dr[0], dr[1]);
            }
            cn.Close();
        }
    }
}
```

Output:

```
Enter Student Enrollment Number to know the result:4
Enrollment      Cpi
  4             8.7
```

(3) Write a menu driven program to insert, delete, update student database. (Connected access)

Code:3.cs

```
using System;
using System.Data;
using System.Data.SqlClient;

namespace ADOPracticle3
{
   class Program
   {
      static void Main(string[] args)
      {
       start:   Console.WriteLine("Enter 1 for insert the data into the databse.");
         Console.WriteLine("Enter 2 for delete the data into the databse.");
         Console.WriteLine("Enter 3 for update the data into the databse.");
         int choice = int.Parse(Console.ReadLine());
         switch (choice)
         {
            case 1:
               Console.WriteLine("Enetr student enrollment number:");
               int e = int.Parse(Console.ReadLine());
               Console.WriteLine("Enter student name:");
               string n = Console.ReadLine();
               Console.WriteLine("Enter Cpi of the student:");
               double c = double.Parse(Console.ReadLine());
               String cs1 = @"Data Source=.\SQLEXPRESS; Initial catalog=TestDB; Integrated Security=True ";
               SqlConnection cn1 = new SqlConnection(cs1);
               cn1.Open();
               string cq1 = "insert into student_master values(" + e + ",'" + n + "'," + c + ")";
;              SqlCommand cd1 = new SqlCommand(cq1, cn1);
              int count=(int) cd1.ExecuteNonQuery();
               Console.WriteLine("Total {0} raw affected!!", count);

               cn1.Close();
               break;
            case 2:
               Console.WriteLine("Enter student enrollment number which recodrs you want to delete.");
               int e1 = int.Parse(Console.ReadLine());
               String cs2 = @"Data Source=.\SQLEXPRESS; Initial catalog=TestDB; Integrated Security=True ";
               SqlConnection cn2 = new SqlConnection(cs2);
               cn2.Open();
               string cq2 = "delete from student_master where enroll=" + e1;
               SqlCommand cd2 = new SqlCommand(cq2, cn2);
               int count2 = (int)cd2.ExecuteNonQuery();
               Console.WriteLine("Total {0} raw affected!!", count2);
               cn2.Close();
               break;
            case 3:
               Console.WriteLine("Enter student enrollment number which recodrs you want to update.");
               int e2 = int.Parse(Console.ReadLine());
               Console.WriteLine("Eneter new enrollment number:");
               int e21 = int.Parse(Console.ReadLine());
               Console.WriteLine("Enter student new student name:");
               string s2 = Console.ReadLine();
```

```
                Console.WriteLine("Eneter student new cpi");
                double c2 = double.Parse(Console.ReadLine());
                String cs3 = @"Data Source=.\SQLEXPRESS; Initial catalog=TestDB; Integrated Security=True ";
                SqlConnection cn3 = new SqlConnection(cs3);
                cn3.Open();
                string cq3 = "update student_master set enroll=" + e21 + ",sname='" + s2 + "',cpi=" + c2 + " where enroll=" + e2;
                SqlCommand cd3 = new SqlCommand(cq3,cn3);
                int count3 = (int)cd3.ExecuteNonQuery();
                Console.WriteLine("Total {0} raw affected!!",count3);
                cn3.Close();
                break;
            default:
                Console.WriteLine("Enter valid number!!");
                goto start;
                break;

        }
    }
  }
}
```

Output:

```
Enter 1 for insert the data into the databse.
Enter 2 for delete the data into the databse.
Enter 3 for update the data into the databse.
1
Enetr student enrollment number:
68
Enter student name:
Jaydip
Enter Cpi of the student:
8.0
Total 1 raw affected!!
```

(4) Write a program to count total number of students. Display total number of pass and fail students. (Disconnected access)

Code:4.cs

```
using System;
using System.Data;
using System.Data.SqlClient;

namespace ADOPracticle4
{
   class Program
   {
      static void Main(string[] args)
      {
         string cs = @"Data Source=.\SQLEXPRESS; Initial Catalog=TestDB; Integrated Security=True";
         SqlConnection cn = new SqlConnection(cs);
         cn.Open();
         string cq1 = "select*from student_master";
         SqlDataAdapter sa = new SqlDataAdapter(cq1, cn);
         DataSet ds = new DataSet();
         sa.Fill(ds);
         int count = (int)ds.Tables[0].Rows.Count;

         string cq2 = "select*from student_master where cpi>=4";
         SqlDataAdapter sa2 = new SqlDataAdapter(cq2, cn);
         DataSet ds2 = new DataSet();
         sa2.Fill(ds2);
         int count2 = ds2.Tables[0].Rows.Count;

         string cq3 = "select*from student_master where cpi<4";
         SqlDataAdapter sa3 = new SqlDataAdapter(cq3, cn);
         DataSet ds3 = new DataSet();
         sa3.Fill(ds3);
         int count3 = ds3.Tables[0].Rows.Count;

         Console.WriteLine("Total students= {0}",count);
         Console.WriteLine("Total passed student={0}",count2);
         Console.WriteLine("Total failed student ={0}", count3);


      }
   }
}
```

Output:

```
Total students= 12

Total passed student=8

Total failed student =4
```

(5) Write a program to display result of a student given his enrollment number. (Disconnected access)

Code:5.cs

```
using System;
using System.Data;
using System.Data.SqlClient;

namespace ADOPracticle5
{
   class Program
   {
      static void Main(string[] args)
      {
         string cs = @"Data Source=.\SQLEXPRESS; Initial catalog=TestDB; Integrated Security=True ";
         SqlConnection cn = new SqlConnection(cs);
         Console.WriteLine("Enter enrollment number of the student to know result:");
         int e = int.Parse(Console.ReadLine());
         cn.Open();
         string cq = "select * from student_master where enroll=" + e;
         SqlDataAdapter sa = new SqlDataAdapter(cq, cn);
         DataSet ds = new DataSet();
         sa.Fill(ds);
         Console.WriteLine("{0,4}\t{1,4}\t{2,4}", "Enrollment", "Name", "Cpi");
         for (int i = 0; i < ds.Tables[0].Rows.Count; i++)
         {
            int e1 = (int)ds.Tables[0].Rows[i]["enroll"];
            string s = (string)ds.Tables[0].Rows[i]["sname"];
            double c = (float)ds.Tables[0].Rows[i]["cpi"];
            Console.WriteLine("{0,4}\t{1,4}\t{2,4}", e1, s, c);

         }
         cn.Close();


      }
   }
}
```

Output:

Enter enrollment number of the student to know result:

68

Enrollment	Name	Cpi
68	Jaydip	8

(6) Write a menu driven program for number system conversion (Decimal to Binary, Octal and Hexadecimal).

Code:6.cs

```
using System;
using System.Data;
using System.Data.SqlClient;

namespace ADOpracticle6
{
  class Program
  {
    static void Main(string[] args)
    {
    start: Console.WriteLine("Enter 1 for insert the data into the databse.");
      Console.WriteLine("Enter 2 for update the data into the databse.");
      Console.WriteLine("Enter 3 for delete the data into the databse.");
      int choice = int.Parse(Console.ReadLine());
      switch (choice) {
        case 1:
          String cs2 = @"Data Source=.\SQLEXPRESS; Initial catalog=TestDB; Integrated Security=True";
          SqlConnection cn2 = new SqlConnection(cs2);
          cn2.Open();
          string cq2 = "select*from student_master";
          SqlDataAdapter sa2 = new SqlDataAdapter(cq2, cn2);
          DataSet ds2 = new DataSet();
          sa2.Fill(ds2);
          SqlCommandBuilder scb2 = new SqlCommandBuilder(sa2);
          sa2.UpdateCommand = scb2.GetUpdateCommand();
          Console.WriteLine("Enter enrollment number:");
          int e2 = int.Parse(Console.ReadLine());
          Console.WriteLine("Enter student name:");
          string n2 = Console.ReadLine();
          Console.WriteLine("Enter cpi:");
          double c2 = double.Parse(Console.ReadLine());
          DataRow dr2 = ds2.Tables[0].NewRow();
          dr2["enroll"] = e2;
          dr2["sname"] = n2;
          dr2["cpi"] = c2;
          ds2.Tables[0].Rows.Add(dr2);
          Console.WriteLine("Row added successfully.");
          sa2.Update(ds2);
          cn2.Close();
          break;

        case 2:
          String cs = @"Data Source=.\SQLEXPRESS; Initial catalog=TestDB; Integrated Security=True";
          SqlConnection cn = new SqlConnection(cs);
          cn.Open();
          string cq = "select*from student_master";
          SqlDataAdapter sa = new SqlDataAdapter(cq, cn);
          DataSet ds = new DataSet();
          sa.Fill(ds);
          Console.WriteLine("Enter enrollment number which's data you want to update");
          int e = int.Parse(Console.ReadLine());

          Console.WriteLine("Enter new enrollment number:");
          int e1 = int.Parse(Console.ReadLine());
          Console.WriteLine("Enter student name:");
          string n1 = Console.ReadLine();
```

```
            Console.WriteLine("Enter cpi:");
            double c1 = double.Parse(Console.ReadLine());

            for (int i = 0; i < ds.Tables[0].Rows.Count; i ++) {
               int eno = (int) ds.Tables[0].Rows[i]["enroll"];
               if (eno == e) {
                  ds.Tables[0].Rows[i]["enroll"] = e1;
                  ds.Tables[0].Rows[i]["sname"] = n1;
                  ds.Tables[0].Rows[i]["cpi"] = c1;
                  Console.WriteLine("Record updated successfully!");
               }
               }
            SqlCommandBuilder scb = new SqlCommandBuilder(sa);
            sa.UpdateCommand = scb.GetUpdateCommand();
            sa.Update(ds);
            cn.Close();
            break;
         case 3:
            String cs1 = @"Data Source=.\SQLEXPRESS; Initial catalog=TestDB; Integrated Security=True";
            SqlConnection cn1 = new SqlConnection(cs1);
            cn1.Open();
            string cq1 = "select*from student_master";
            SqlDataAdapter sa1 = new SqlDataAdapter(cq1, cn1);
            DataSet ds1 = new DataSet();
            sa1.Fill(ds1);
            Console.WriteLine("Enter enrollment number which's data you want to delete");
            int e3 = int.Parse(Console.ReadLine());
            for (int i = 0; i < ds1.Tables[0].Rows.Count; i++)
            {
               int eno1 = (int)ds1.Tables[0].Rows[i]["enroll"];
               if (eno1 == e3)
               {
                  ds1.Tables[0].Rows[i].Delete();
                  Console.WriteLine("Record deleted successfully!");
               }
            }
            SqlCommandBuilder scb1 = new SqlCommandBuilder(sa1);
            sa1.DeleteCommand = scb1.GetDeleteCommand();
            sa1.Update(ds1);
            cn1.Close();
            break;
         default:
            Console.WriteLine("Enter Valid Number!!");
            goto start;

      }


   }
  }
}
```

Output:

Enter 1 for insert the data into the databse.

Enter 2 for update the data into the databse.

Enter 3 for delete the data into the databse.

2

Enter enrollment number which's data you want to update

4

Enter new enrollment number:

4

Enter student name:

Hardik

Enter cpi:

8.2

Record updated successfully!