Q-1. Create an MVC(.net framework or Core) application with C# Diamond information using entity framework. Convert EF to tuple collection and perform CRUD operation on it.

Ans:-

Diamondscontroller.cs

```csharp
using System;
using System.Collections.Generic;
using System.Data;
using System.Data.Entity;
using System.Linq;
using System.Net;
using System.Web;
using System.Web.Mvc;
using PraticalAssignment;

namespace PraticalAssignment.Controllers
{
    public class DiamondsController : Controller
    {
        private DiamondDBEntities db = new DiamondDBEntities();

        // GET: Diamonds
        public ActionResult Index()
        {
            List<Diamond> diamonds = db.Diamonds.ToList();
            var tuples = Tuple.Create<List<Diamond>>(diamonds);
            return View(tuples.Item1);
        }

        // GET: Diamonds/Details/5
        public ActionResult Details(int? id)
        {
            Diamond diamonds = db.Diamonds.Find(id);
            var tuples = Tuple.Create<Diamond>(diamonds);
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            }

            if (tuples.Item1 == null)
            {
                return HttpNotFound();
            }
            return View(tuples.Item1);
        }

        // GET: Diamonds/Create
        public ActionResult Create()
        {
            return View();
        }
```

```
// POST: Diamonds/Create
// To protect from overposting attacks, enable the specific properties you want to bind to, for
// more details see https://go.microsoft.com/fwlink/?LinkId=317598.
[HttpPost]
[ValidateAntiForgeryToken]
public ActionResult Create([Bind(Include =
"diamondId,diamondName,Weight,ColorGrade,ClarityGrade,CutGrade")] Diamond diamond)
        {
            if (ModelState.IsValid)
            {
                db.Diamonds.Add(diamond);
                db.SaveChanges();
                return RedirectToAction("Index");
            }

            return View(diamond);
        }

        // GET: Diamonds/Edit/5
        public ActionResult Edit(int? id)
        {

            Diamond diamonds = db.Diamonds.Find(id);
            var tuples = Tuple.Create<Diamond>(diamonds);

            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            }

            if (tuples.Item1 == null)
            {
                return HttpNotFound();
            }
            return View(tuples.Item1);
        }

// POST: Diamonds/Edit/5
// To protect from overposting attacks, enable the specific properties you want to bind to, for
// more details see https://go.microsoft.com/fwlink/?LinkId=317598.
[HttpPost]
[ValidateAntiForgeryToken]
public ActionResult Edit([Bind(Include =
"diamondId,diamondName,Weight,ColorGrade,ClarityGrade,CutGrade")] Diamond diamond)
        {
            if (ModelState.IsValid)
            {
                db.Entry(diamond).State = EntityState.Modified;
                db.SaveChanges();
                return RedirectToAction("Index");
            }
            return View(diamond);
        }

        // GET: Diamonds/Delete/5
        public ActionResult Delete(int? id)
        {
```

```csharp
            Diamond diamonds = db.Diamonds.Find(id);
            var tuples = Tuple.Create<Diamond>(diamonds);

            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            }

            if (tuples.Item1 == null)
            {
                return HttpNotFound();
            }
            return View(tuples.Item1);
        }

        // POST: Diamonds/Delete/5
        [HttpPost, ActionName("Delete")]
        [ValidateAntiForgeryToken]
        public ActionResult DeleteConfirmed(int id)
        {

            Diamond diamonds = db.Diamonds.Find(id);
            var tuples = Tuple.Create<Diamond>(diamonds);

            db.Diamonds.Remove(tuples.Item1);
            db.SaveChanges();
            return RedirectToAction("Index");
        }

        protected override void Dispose(bool disposing)
        {
            if (disposing)
            {
                db.Dispose();
            }
            base.Dispose(disposing);
        }
    }
}
```
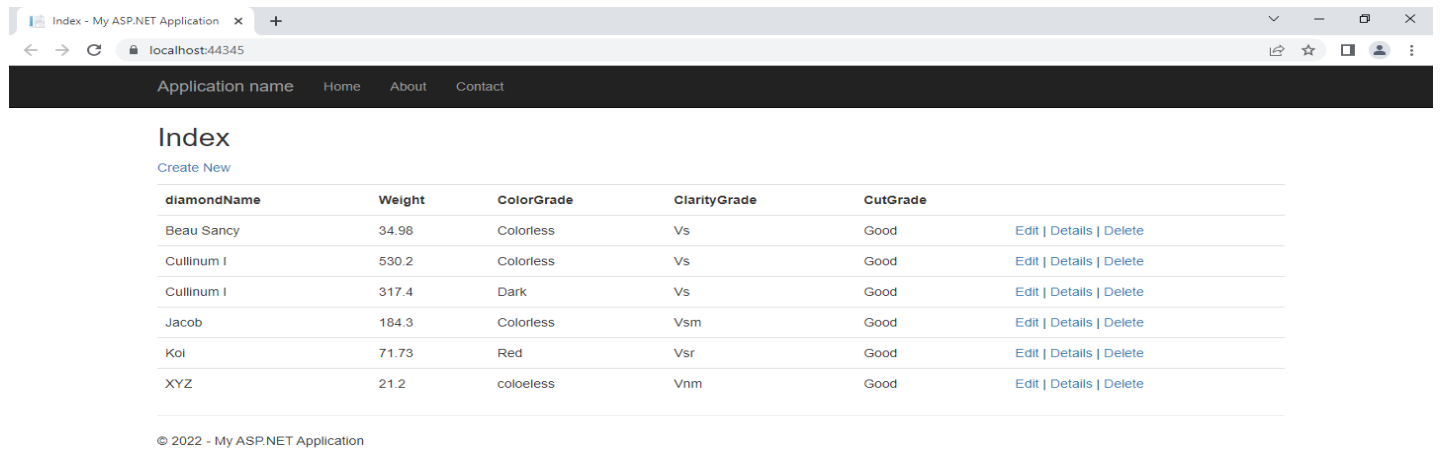
Diamonds.cs

```csharp
//------------------------------------------------------------------------------
// <auto-generated>
//     This code was generated from a template.
//
//     Manual changes to this file may cause unexpected behavior in your application.
//     Manual changes to this file will be overwritten if the code is regenerated.
// </auto-generated>
//------------------------------------------------------------------------------

namespace PraticalAssignment
{
    using System;
    using System.Collections.Generic;

    public partial class Diamond
    {
        public int diamondId { get; set; }
        public string diamondName { get; set; }
        public double Weight { get; set; }
        public string ColorGrade { get; set; }
        public string ClarityGrade { get; set; }
        public string CutGrade { get; set; }
    }
}
```
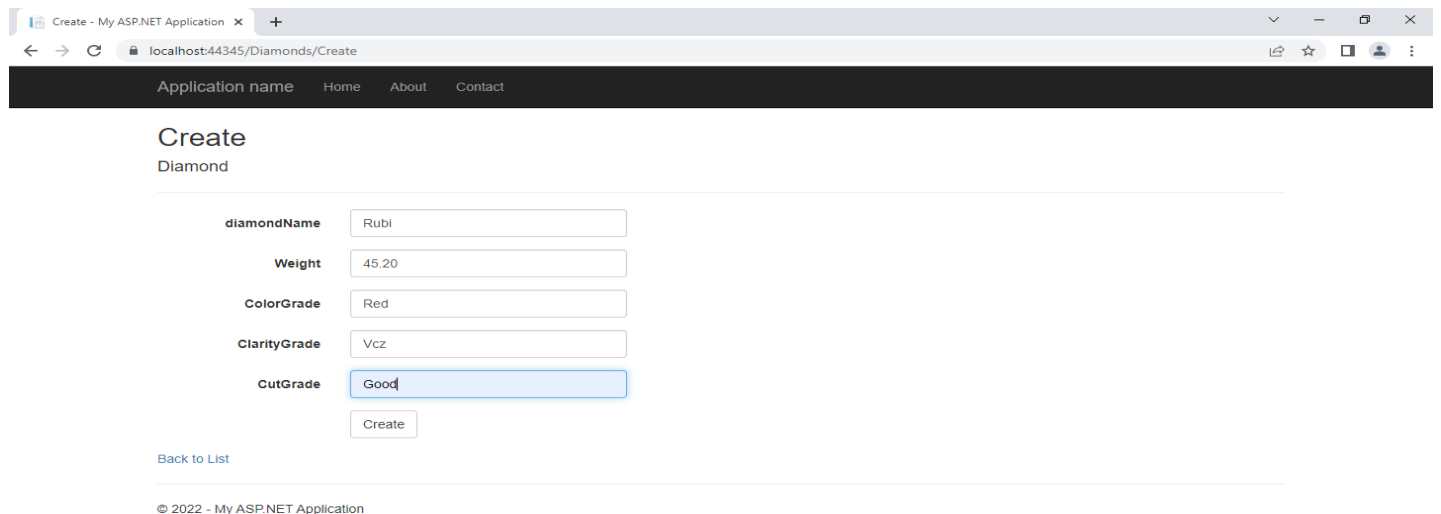
OutPut:-

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Create New

diamondName	Weight	ColorGrade	ClarityGrade	CutGrade			
Beau Sancy cs	34.98	Colorless	Vs	Good	Edit	Details	Delete
Cullinum I	530.2	Colorless	Vs	Good	Edit	Details	Delete
Cullinum I	317.4	Dark	Vs	Good	Edit	Details	Delete
Jacob	184.3	Colorless	Vsm	Good	Edit	Details	Delete
Koi	71.73	Red	Vsr	Good	Edit	Details	Delete
XYZ	21.2	coloeless	Vnm	Good	Edit	Details	Delete
Rubi	45.2	Red	Vcz	Good	Edit	Details	Delete

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Details - My ASP.NET Application

localhost:44345/Diamonds/Details/1

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Details

Diamond

diamondName	Beau Sancy cs
Weight	34.98
ColorGrade	Colorless
ClarityGrade	Vs
CutGrade	Good

Edit | Back to List

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| Delete - My ASP.NET Application × | + |

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Delete

Are you sure you want to delete this?

Diamond

diamondName	Koi
Weight	71.73
ColorGrade	Red
ClarityGrade	Vsr
CutGrade	Good

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Create New

diamondName	Weight	ColorGrade	ClarityGrade	CutGrade	
Beau Sancy cs	34.98	Colorless	Vs	Good	Edit | Details | Delete
Cullinum I	530.2	Colorless	Vs	Good	Edit | Details | Delete
Cullinum I	317.4	Dark	Vs	Good	Edit | Details | Delete
Jacob	184.3	Colorless	Vsm	Good	Edit | Details | Delete
XYZ	21.2	coloeless	Vnm	Good	Edit | Details | Delete
Rubi	45.2	Red	Vcz	Good	Edit | Details | Delete

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