**C# Homework 09**

**Question 1**

What is an enum?

**Answer**

An enum type is a value type defined by a set of named constants of the underlying by a set of named constants of the underlying integral numeric type. To define an enum type, use the enum keyword and specify name of enum members.

**Question2**

Declare an enum for military ranks, either officer or enlisted. Name it Ranks. What are the symbols, like Private, Corporal, Sergeant or lieutenant, Captain, Major?

**Answer**

Enum ranks (pvt=0, pfc=1, lcpl=2, cpl=3, sgt=4, ssgt=5, gysgt=6, 1sgt=7, sgtmjr=8)

**Question 3**

Using the Ranks enum, assign a rank to yourself and a friend.

**Answer**

Ranks Oberholzer = Ranks.cpl;

Ranks Hankins = Ranks.cpl;

Oberholzer & hankins is a Rank data type

**Question 4**

Determine the numeric index of particular ranks, using the Ranks enum.

**Answer**

Cpl = 2 for both

**Question 5**

How do you select the type of an enum?

**Answer**

By using the name of it.

**Question 6**

What is a struct?

**Answer**

A structure is a value type data type. It helps you to make a single variable hold related data of various data types. The struct keyword is used for created a structure. Structures are used to represent a record.

**Question 7**

List some differences between classes and structs.

**Answer**

A structure is a value type, so it is stored on the stack, but a class is reference type and is stored on the heap. A structure doesn’t support inheritance, and polymorphism, but class support both. Asa a structure is a value type, we can’t assign null to a struct object, but it is not the case for a class.

**Question 8**

Are structs stored on the stack or on the heap? What about enums?

**Answer**

Structs are stored in a stack. When an instance of a struct is passed to a method, it is always passed by value. As enum types are handled as integral types, they are stored in the stack and registers as their respective data types: a standard enum is usually implemented as an int32; this means that the compiler will handle your enum as a synonym of int32.

**Question 9**

Review the documentation for the C# System.Int32. List the fields. List the methods.

**Answer**

Max value and min value for fields; CompareTo, Equals, GetHashCode, GetTypeCode, Parse, ToString TryFormat, TryParse for methods

**Question 10**

Declare a struct named DOD with four branches.

**Answer**

{

Public string Air Force,

Public string Army,

Public string Marine,

Public string Navy;

}

**Question 11**

Why can’t you create a default constructor for a struct?

**Answer**

NET, a value type (C# struct) can’t have a constructor with no parameters. According to this post this is mandated by the CLI specification. What happens is that for every value-type a default constructor is created which initialized all member to zero (or null).

**Question 12**

What is CIL? What does the CLR do to the CIL?

**Answer**

CIL (Common Intermediate Language) is a bytecode and the language of the .NET platform into which are compiled source code written in high level languages. The source code from high-level language (C#, Basic or other language) is compiled in CIL and stored into an assembly.