**QUESTIONS & ANSWERS**

1. What are the major differences between the float and double data types?

|  |  |
| --- | --- |
| **Float** | **Double** |
| Consist of single precision. | Two times more precision than float. |
| Float takes 4 bytes for storage. | Double takes 8 bytes for storage. |
| A Float has a precision of 6 decimal places. | A Double has a precision of 15 decimal places. |

1. Gold can be used in financial transactions. With gold priced approximately $1,600 per

ounce, what data type would you use to process financial transactions that use gold as

the medium of exchange and why?

**Decimal:**

It is a 128-bit data type suitable for financial and monetary calculations. It has 28-29 digit Precision.

1. Given the following statements

***string[] str1 = new string[100];***

***string[] temp;***

***str1[0] = "Hailey";***

***// Some more code***

***temp = str1;***

What is the value of temp?

1. Declare several variables by selecting for each one of them the most appropriate of the

integer types in order to assign them the following values: 52,130; -115; 4825932; 97;

-10000; 20000; 224; 970,700,000; 112; -44; -1,000,000; 1990; 123456789123456789.

class Program

{

static void Main(string[] args)

{

ushort num1 = 52130;

sbyte num2 = -115;

uint num3 = 4825932;

byte num4 = 97;

short num5 = -10000;

short num6 = 20000;

byte num7 = 224;

uint num8 = 970700000;

sbyte num9 = 112;

sbyte num10 = -44;

int num11 = -1000000;

ushort num12 = 1992;

long num13 = 123456789123456789;

}

}

1. Which of the following values can be assigned to variables of type float, double and

decimal: -5, -5.01, 34.567839023; 12.345; 8923.1234857;

3456.091124875956542151256683467?

**double 34.567839023;**

**float 12.345f;**

**double 8923.1234857;**

**decimal 3456.091124875956542151256683467m;**

1. Declare a variable of type char and assign it as a value the character, which has Unicode

code, 72.

class Program  
{  
    static void Main(string[] args)  
    {  
        int number = 0x100;  
    }  
}

1. Declare a variable isMale of type bool and assign a value to it depending on your gender.

class Program  
{  
    static void Main(string[] args)  
    {  
        bool isMale = true;  
    }  
}

1. A company dealing with marketing wants to keep a data record of its employees. Each

record should have the following characteristic – first name, last name, age, gender (‘m’

or ‘f’) and unique employee number (27560000 to 27569999). Declare appropriate

variables needed to maintain the information for an employee by using the appropriate

data types and attribute names.

class Program  
{  
    static void Main(string[] args)  
    {  
        string firstName;  
        string lastName;  
        byte age;  
        char gender;  
        int id;  
    }  
}

1. What is an expression? Give real life example.

An expression is a sentence with a minimum of two numbers and at least one math operation.

The structure of an expression is:

**Expression = (Number, Math Operator, Number)**

**For example**,

     = 7 + 24

     = 33 × 8

1. Write an expression that checks whether an integer is odd or even.

static void Main(string[] args)  
{  
    int number = 15;  
    bool even = number % 2 == 0 ? true : false;  
    Console.WriteLine("{0} is even? {1}", number, even);  
}

1. The gravitational field of the Moon is approximately 17% of that on the Earth. Write a

program that calculates the weight of a man on the moon by a given weight on the

Earth.

*Hint: gravitational field of the earth is 9.8 m/s2.*

static void Main(string[] args)  
{  
    Console.WriteLine("Enter weight of a man: ");  
    int weight = Convert.ToInt32(Console.ReadLine());  
    Console.WriteLine("This person will weight {0}kg on the Moon.", weight \* 0.17);  
}

1. Write a program that takes as input a four-digit number in format abcd (e.g. 2011) and

performs the following actions:

i. Calculates the sum of the digits (in our example 2+0+1+1 = 4).

ii. Prints on the console the number in reversed order: dcba (in our example

iii. Puts the last digit in the first position: dabc (in our example 1201).

iv. Exchanges the second and the third digits: acbd (in our example 2101).