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Q No 1 How to write hello program in C++ and explain in detail?

Ans

```
// "Hello" program in C++
namespace Hello
{
    class Hello {
    public:
        static void Main ( string [ ] args)
        {
            System.Console.WriteLine ( "Hello!");
        }
    }
}
```

When we run the program, then output is Hello!

(2)

Explanation of the program :-

(1) // "Hello" program.

// beginning the comments in C#. Comments are not executing by the C# compiler.

(2) namespace Hello { -- }

The namespace keyword is used to define our own namespace. Here we are creating a namespace called "Hello".

(3) class Hello

The above statement creates a class named Hello in C#. Since C# is an object oriented programming language creating a class is mandatory for the program execution.

(4) static void Main (string [] args)
{ -- }

Main() is a method of class Hello. The execution of every C# program start from the main() method. So it is mandatory for a C# program to have a main() method.

The syntax of the main() method

is
static void Main (string [] args)
{
--
}

(3)

(C) System.Console.WriteLine("Hello!");
For now, just remember that this is the piece of code that prints Hello! to the output screen

Q No 2

(a)

Ans

As you know, the best way to concatenate two strings in C# is as follows:

```
private void btn_strings_Click(object sender, EventArgs e)
```

```
{  
    string firstName;  
    string messageText;
```

```
    firstName = textBox1.Text;  
    MessageBox.Show(firstName);
```

```
}
```

We want to store some text inside of this new variable so add the following line

```
messageText = "Your name is:";  
private void btn_strings_Click(object sender, EventArgs e)
```

```
{
```

```
    string firstName;  
    string messageText;
```

(c)
Message Text = "Your Name is:";
first Name = text box1.Text;
Message Box.Show (first Name);
}

(b)

Typecasting in C#:-

Typecasting is converting one data type into another one. It is also called data conversion or type conversion. Following two types of type casting in C#.

Implicit type conversion:-

These conversions are performed by C# in a type-safe manner. For example, are conversion from smaller to larger integral types and conversion from derived classes to base classes.

Explicit type conversion:-

These conversions are done explicitly by users using the predefined functions. Explicit conversions require a cast operator.

Q.N. 3

(a)

Ans

Constant are field whose values are not set at compile time and can

(5)

never be changed. Use constant to provide meaningful names instead of numeric literals ("magic numbers") for special values.

Example

static class constants

```
{
    public const double pi = 3.14159;
    public const int speed of light = 300000; // km per
}
class program
{
    static void main()
    {
        double radius = 5.3;
        double area = constants.pi * (radius * ra

        int secs from sun = 149576000 / constants
        speed of light;
    }
}
```

(b)

Ans

```
// declare without initialization
string str1;
// declaring and initializing.
string str2 = "Welcome to Pakistan";
string str3 = "Hello world!";
// initializing an empty string
string str4 = "string.Empty";
// initialize to null
string str5 = null;
```

⑥
// Creating a string from char
`char[] letters = { 'A', 'B', 'C' };`
`String str6 = new String(letters);`

If you observe above code snippet we created a string variables using `new` and `String` keyword with or without initializing a value based on our requirements.