

# Morning Katas

Day 11



# Print Your Name

Create a new Console Application named  
**Day11.Kata1**

In the **Main** method, **WriteLine** your name

# Print Your Name

```
public static void Main(string[] args)
{
    Console.WriteLine("Curtis");
}
```

# Declare and Use a Variable

Create a new Console Application named  
**Day11.Kata2**

In the **Main** method:

Declare an **int** variable named **day** and set it to 11

**WriteLine** the message *"Today is day 11"* using  
the **+** operator to concatenate the **string** *"Today is  
day"* and the **day** variable

# Declare and Use a Variable

```
public static void Main(string[] args)
{
    int day = 11;
    Console.WriteLine("Today is day " + day);
}
```

# Use an `if-else`

Create a new Console Application named  
`Day11.Kata3`

In the `Main` method:

Declare a `new` instance of `Random`

Use the `Next(10)` method to get the next `int`

If that value is less than 5, `WriteLine` *"Less than 5"*

Otherwise, `WriteLine` *"Greater than or equal to 5"*

# Use an if-else

```
public static void Main(string[] args)
{
    Random r = new Random();
    if (r.Next(10) < 5)
    {
        Console.WriteLine("Less than 5");
    }
    else
    {
        Console.WriteLine("Greater than or equal to 5");
    }
}
```

# Use an array

Create a new Console Application named  
**Day11.Kata4**

In the **Main** method:

Declare and initialize an array of **strings** that  
contain the names of names of the week  
**WriteLine** the entry “Monday”



# Use an array

```
public static void Main(string[] args)
{
    string[] daysOfTheWeek = new string[]
    {
        "Sunday", "Monday", "Tuesday", "Wednesday",
        "Thursday", "Friday", "Saturday"
    };
    Console.WriteLine(daysOfTheWeek[1]);
}
```

# Use the `for` loop

Create a new Console Application named  
`Day11.Kata5`

In the `Main` method:

Declare and initialize an array of three random `ints`  
less than 100

Declare a variable named `total`

Use a `for` loop to loop over the array and sum the  
total

`WriteLine` the total

# Use the for loop

```
public static void Main(string[] args)
{
    Random r = new Random();
    int[] nums = new int[]
    {
        r.Next(100), r.Next(100), r.Next(100)
    };
    int total = 0;
    for (int i = 0; i < 3; i = i + 1)
    {
        total = total + nums[i];
    }
    Console.WriteLine(total);
}
```

# Handle User Input

Create a new Console Application named  
**Day11.Kata6**

In the **Main** method:

Write a message that asks the user for their name

Get their name from the input

Write the message “*Hello, «name»!*”

# Handle User Input

```
public static void Main(string[] args)
{
    Console.WriteLine("What is your name?");
    string name = Console.ReadLine();
    Console.WriteLine("Hello, " + name);
}
```

# Declare a Class & Method

Create a new Console Application named  
**Day11.Kata7**

Create a class named **BankAccount** with a constructor that sets the balance to a random number between 0 and 10000. Have a method that returns that balance.

In the **Main** method:

Create an instance of **BankAccount** using **new**.  
Print the balance of the bank account.

```
// In BankAccount.cs
public class BankAccount
{
    private decimal balance;
    public BankAccount()
    {
        Random r = new Random();
        balance = r.Next(10001);
    }
    public decimal GetBalance()
    {
        return balance;
    }
}
```

```
// In Program.cs
public static void Main(string[] args)
{
    BankAccount account = new BankAccount();
    decimal balance = account.GetBalance();
    Console.WriteLine("Your balance is: " + balance);
}
```

# Child Classes

Create a new Console Application named **Day11.Kata8**

Create an **abstract** class named **Animal** that has a **Speak** method that uses an **abstract** getter property named **Vocalization** of type **string**. and **WriteLines** the return value of **Vocalization** to the console.

Create a **Fish** class that inherits from the **Animal** class and **overrides** the **Vocalization** property by returning "Blurp".

Create a **HoneyBadger** class that inherits from the **Animal** class and overrides the **Vocalization** property by returning "I OWN THE WORLD!".

In the **Main** method:

Create a **List<Animal>** and **Add** an instance of **Fish** and **Add** an instance of **HoneyBadger** to it.

Use the **foreach** loop to call the **Speak** method on each instance of **Animal** in the **List<Animal>**