

C#

Data Types:

| | |
|---------|--------------------------|
| bool | boolean |
| byte | 8-bit unsigned |
| char | 16-bit unicode |
| decimal | 128-bit precise 28-29 sf |
| double | 64-bit double-precision |
| float | 32-bit single-precision |
| int | 32-bit signed |
| long | 64-bit signed |
| object | |
| sbyte | 8-bit signed |
| short | 16-bit signed |
| string | |
| uint | 32-bit unsigned |
| ulong | 64-bit unsigned |
| ushort | 16-bit unsigned |

Type Conversions:

| | |
|------------|----------|
| ToBoolean | ToSbyte |
| ToByte | ToSingle |
| ToChar | ToString |
| ToDateTime | ToType |
| ToDecimal | ToUInt16 |
| ToInt16 | ToUInt32 |
| ToInt32 | ToUInt64 |
| ToInt64 | |

Arrays:

```
int[] array = new int[] {x, y, z}
int[] array = {x, y, z}
var array = new int[] {x, y, z}
int[] array = new int[3]
```

Control Flow:

```
if ( conditional ) { ... }
else if ( conditional ) { ... }
else { ... }
switch (var) {
    case1: break;
    default: break;
}
for (int i = _ ; i _ _ ; i _ _ ) { ... }
foreach( type item in arrayName) { ... }
while ( conditional ) { ... }
do { ... } while ( conditional );
try { ... }
catch (Exception e) { ... }
catch { ... }
finally { ... }
```

Classes:

```
public class Dog { ... }
public class Dog: Pet { ... }           inheritance from pet
public static class Dog { ... }         static class
```

Other Modifiers:

| | |
|----------|--|
| abstract | class is a base of other classes only |
| async | method is asynchronous |
| const | value is immutable |
| event | declares an event |
| extern | method is implemented externally |
| new | hides member inherited from base class |
| override | new implementation of member from base class |
| partial | defines partial classes, structs, & methods |
| readonly | values assigned in same class only |
| sealed | member cannot be inherited |
| static | member belongs to the type instead of specific obj |
| unsafe | unsafe context |
| virtual | implementation can be overwritten |
| volatile | field can be modified by OS, hardware, or thread |

String Methods:

```
int Compare(str1,str2)
string Concat(str1,str2)
bool Contains(str)
string Copy(str)
bool EndsWith(str)
bool Equals(str)
int IndexOf(char)
int IndexOf(str)
int IndexOf(char, startindex)
string Insert(startIndex, val)
bool IsNullOrEmpty(str)
string Join(separator, string[] value)
string Remove(startIndex)
string Replace(oldValue, newValue)
string[] Split (separator [, count])
char[] ToCharArray([start, length])
string ToLower()
string ToUpper()
string Trim()
```