

## Checked and Unchecked

### checked block

- لو حصل **overflow** البرنامج يرمي **Exception**.
- بتستخدمها لو عايز الأمان والدقة في العمليات الحسابية.

♦ مثال:

checked

```
{  
    int x = int.MaxValue;  
    x = x + 1; // هنا هيرمي OverflowException  
}
```

---

### unchecked block

- لو حصل **overflow** البرنامج يتجاهل ويكمل (لكن القيمة هتتغبط).
- بتستخدمها لو الأداء أهم من الأمان، أو متأكد إن **overflow** مش مشكلة.

♦ مثال:

unchecked

```
{  
    int x = int.MaxValue;  
    x = x + 1; // (قلبت السالب) x = -2147483648 ، لكن Exception مفيش  
}
```

## what meant by Csharp is managed code?

**Managed code** means the code is executed under the **control of the .NET runtime** (called the **CLR – Common Language Runtime**),

### Key Features of Managed Code:

#### Automatic Memory Management

- The CLR handles memory allocation and garbage collection (no need to manually free memory).

#### Type Safety

- Ensures variables are used consistently with their declared types.

#### Security

- CLR enforces security rules to prevent unsafe operations (e.g., buffer overflows).

#### Exception Handling

- Provides a structured way to catch and handle errors safely.

#### Cross-Language Interoperability

- Managed code written in different .NET languages (C#, VB.NET, etc.) can work together.
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## What meant by struct is considered like class before?

In **C#**, both struct and class are **user-defined types** — they can have fields, properties, methods, and constructors. This makes them *similar* in structure and use.