C# String Concatenation Performance - String Literals

Method	Runtime	Mean	Ratio	Gen0	Allocated	Alloc Ratio
+ operator	.NET 6.0	0.0103 ns	0.000	-	-	0.00
One-line (Hard to read)	.NET 6.0	0.0034 ns	0.000	-	-	0.00
Raw string literals	.NET 6.0	0.0034 ns	0.000	-	-	0.00
string.Join	.NET 6.0	368.1577 ns	0.751	0.3190	1336 B	0.91
string.Concat	.NET 6.0	490.6454 ns	1.000	0.3500	1464 B	1.00
+ operator	.NET 7.0	0.0440 ns	0.000	-	-	0.00
One-line (Hard to read)	.NET 7.0	0.0052 ns	0.000	-	-	0.00
Raw string literals	.NET 7.0	0.0124 ns	0.000	-	-	0.00
string.Join	.NET 7.0	382.4700 ns	0.855	0.3190	1336 B	0.91
string.Concat	.NET 7.0	447.6072 ns	1.000	0.3500	1464 B	1.00

+ operator

```
_ = "Put aside your clever schemes!" +
    "O lover, be mindless! Become mad!" +
    "Dive into the heart of the flame!" +
    "Become fearless! Be like a moth!" +
    "" +
    "Turn away from the self" +
    "and tear down the house!" +
    "Then, come and dwell in the house of love!" +
    "Be a lover! Live with lovers!" +
    "" +
    "Clean your chest from all hostility." +
    "Wash it seven times." +
    "Then, fill it with the wine of love!" +
    "Be a chalice for love! Be a chalice!" +
    "" +
    "You must be all love" +
    "to be worthy of the beloved." +
    "When going to the gathering of drunks," +
    "be a drunk! Become drunk!" +
    "" +
    "Rumi - Divan of Shams - Poem 2131";
```

Raw string literals

```
_ = """
    Put aside your clever schemes!
    O lover, be mindless! Become mad!
    Dive into the heart of the flame!
    Become fearless! Be like a moth!

    Turn away from the self
    and tear down the house!
    Then, come and dwell in the house of love!
    Be a lover! Live with lovers!

    Clean your chest from all hostility.
    Wash it seven times.
    Then, fill it with the wine of love!
    Be a chalice for love! Be a chalice!

    You must be all love
    to be worthy of the beloved.
    When going to the gathering of drunks,
    be a drunk! Become drunk!

    Rumi - Divan of Shams - Poem 2131
    """;
```

☑ **Raw string literals** is the best (readability + performance, introduced in C# 11)

❌ **string.Join** and **string.Concat** aren't suitable for string literals concatenation