Order Management – Code Review

Don't Repeat Yourself

1. Consider using "Factory Method" for Shape creation. It'll also help to avoid lots of code duplication in Program.cs.
   [Easy to understand, Ready for change]
2. Refactor colour variables to accommodate change without rewriting. Introduced a new entity called ShapeVariant
   [Ready for change]
3. Introduce a separate helper file for report generation to avoid code duplication in each report class
   [Safe from bugs, Easy to understand, Ready for change]
4. Move generic functionalities from derived classes to its base class
   [Safe from bugs, Easy to understand]
5. Consider using chaining constructors:base() in constructors of derived classes to implicitly call the constructor of the base class.
   [Safe from bugs, Easy to understand]
6. Consider introducing a separate class for global constants like variables and enums.
   [Safe from bugs, Easy to understand, Easy to maintain]

Best Practices

1. Introduce some user input validation and sanitization
   [Safe from bugs, Easy to understand, Easy to maintain]
2. Consider to make all types and type members private, protected or internal unless there is specific reason to make them public.
   [Safe from bugs, Easy to maintain]

Style Suggestions

1. Comments Where Needed	*[Easy to understand]*
2. Avoid Magic Numbers	*[Easy to understand, Ready for change]*
3. Remove unnecessary parentheses	*[Easy to understand]*
4. Remove unnecessary and Sort Usings	*[Easy to understand, Easy to maintain]*
5. Consider using unit tests	*[Safe from bugs, Easy to maintain]*
6. Consider re-organising project structure	*[Safe from bugs, Easy to maintain]*

Other

1. Upgrade target framework as current version is out of support
2. Order.ToString() hides Object.ToString(), so introduce the 'override' statement.

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