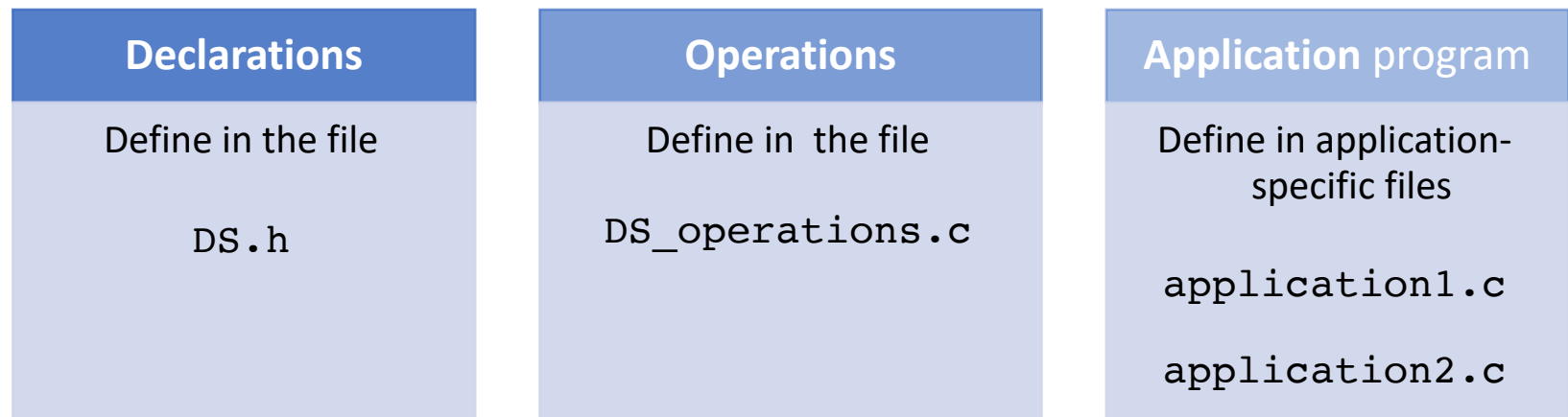# CSE 3010 – Data Structures & Algorithms

Lecture #10

What will be covered today

- Implementation of linked list in C
- Separation of code
- Evaluation of arithmetic expression

Separation of code

Declarations	Operations	Application program

Define in the file
 	
`DS.h`
	Define in the file
	
	`DS_operations.c`
		Define in application-specific files
		
		`application1.c`
		
		`application2.c`

DS refers to any data structure that is implemented in the C language

How does a compiler evaluate expressions?

Examples of arithmetic expressions using infix form

```
a + b
a + b * c
a + b / c * d
a * (b + c) * (d − c)
```

Evaluate above expressions for
```
a = 3, b = 2, c = 3 and d = 4
```

How does a compiler evaluate expressions?

Examples of arithmetic expressions using postfix form

```
a + b = ab+
a + b * c = abc*+
a + b / c * d = ?
a * (b + c) * (d – c) = ?
```

Evaluate above expressions for
```
a = 3, b = 2, c = 3 and d = 4
```