

# Week 9 Section Solutions

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## 1. Dijkstra and A\*

Dijkstra

A to B: {A, B}, cost = 4

A to C: {A, C}, cost = 5

A to D: {A, C, G, D}, cost = 9

A to E: {A, E}, cost = 1

A to F: {A, B, F}, cost = 6

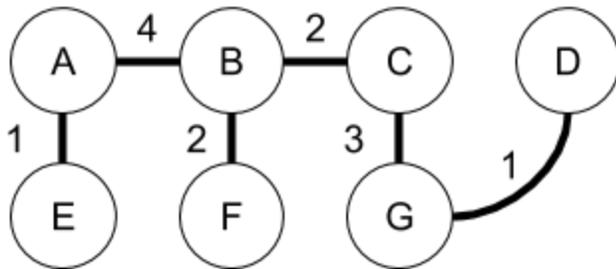
A to G: {A, C, G}, cost = 8

A\*

A to G: {A, C, G}, cost = 8

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## 2. Minimum Spanning Tree



## 3. Polymorphism (not on CSBS)

\ represents output spanning multiple lines.

```
var1->m1();    L 1 \ L 2
var1->m2();    L 2
var1->m3();    COMPILER ERROR
var2->m1();    L 1 \ L 2 \ B 1
var2->m2();    L 2
var2->m3();    B 3
var2->m4();    COMPILER ERROR
var3->m1();    L 1 \ L 2
var3->m2();    L 2
var4->m2();    L 2
var4->m3();    B 3
var4->m4();    COMPILER ERROR
```

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#### 4. Polymorphism Mystery 8

var1->m1();	H1 H2 B1
var1->m2();	H2
var2->m1();	H1 E2 H2 B1
var2->m2();	E2 H2
var2->m2();	COMPILER ERROR
var3->m1();	H1 E2 H2 B1
var3->m2();	E2 H2
var3->m3();	B3 E3
var4->m1();	G1 H1 E2 H2 B1
var4->m4();	COMPILER ERROR
((Burr*) var1)->m3();	B3
((Eliza*) var2)->m4();	COMPILER ERROR
((George*) var4)->m4();	G4 E2 H2
((George*) var4)->m3();	B3 E3
((George*) var2)->m4();	CRASH

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