Full Name: ──────────────────

AID: ──────────────────

CS 340 Spring 2023
Midterm Exam

Answer Booklet

1	(/24) :	
2	(/16) :	
3	(/12) :	
4	(/12) :	
5	(/20) :	
TOTAL	(/84) :	

Concepts

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ

7. Ⓐ Ⓑ Ⓒ Ⓓ
8. Ⓐ Ⓑ Ⓒ Ⓓ
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ
12. Ⓐ Ⓑ Ⓒ Ⓓ

Function type matching

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

Polymorphic functions

1.
```
g1 f x ys =
```

2.
```
g2 f g h x y =
```

3.
```
g3 x f =
```

4.
```
g4 f g x =
```

Function evaluation

1.
```
h1 (*10) (+) 34 2
```

2.
```
h2 (:) "cs340"
```

3.
```
h3 ((`mod` 1000) `h1` (`div` 3) `h1` (== 8)) (*2) 1
```

4.
```
h4 (length `h1` odd) ["eat","jump","hop","laugh","sing","dance"] (++"s")
```

Code completion

1.
```
minmax :: Ord a => [a] -> (a,a)
minmax [x] = (x,x)

minmax (x:xs) =
```

2.
```
collections :: Int -> [(Int, a)] -> [[a]]
collections 0 _  = [[]]
collections _ [] = []
collections n ((0,_):xs) = collections n xs

collections n ((i,x):xs) =
```

3.
```
isRepetitionsOf :: Eq a => [a] -> [a] -> Bool
isRepetitionsOf l1 l2 = rec l1 l2
  where rec [] [] = True
        rec _  [] = False
        rec [] xs = rec l1 xs

        rec (x:xs) (y:ys) =
```

4.
```
bin :: [a -> Bool] -> [a] -> [[a]]

bin ps xs = foldr
```