```
Test Preview: Summary for anb122 of j1
PPT 24
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  Public Tests:
    student-tests/tests/maxOf2:             3 / 3
    student-tests/tests/maxOf3:             3 / 3
    student-tests/tests/isADigit:           2 / 2
    student-tests/tests/isAlpha:            2 / 2
    student-tests/tests/digitToInt:         2 / 2
    student-tests/tests/toUpper:            2 / 2
    student-tests/tests/arithmeticSeq:      4 / 4
    student-tests/tests/geometricSeq:       4 / 4
    student-tests/tests/arithmeticSeries:   4 / 4
    student-tests/tests/geometricSeries:    4 / 4
    original-tests/tests/maxOf2:            3 / 3
    original-tests/tests/maxOf3:            3 / 3
    original-tests/tests/isADigit:          2 / 2
    original-tests/tests/isAlpha:           2 / 2
    original-tests/tests/digitToInt:        2 / 2
    original-tests/tests/toUpper:           2 / 2
    original-tests/tests/arithmeticSeq:     4 / 4
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    original-tests/tests/arithmeticSeries:  4 / 4
    original-tests/tests/geometricSeries:   4 / 4

Git Repo: git@gitlab.doc.ic.ac.uk:lab2324_autumn/haskellsequences_anb122.git
Commit ID: b0f37
```

```haskell
module Sequences where

import Data.Char (ord, chr)

-- | Returns the first argument if it is larger than the second,
-- the second argument otherwise
maxOf2 :: Int -> Int -> Int
maxOf2 x y
    | x > y = x
    | otherwise = y

-- | Returns the largest of three Ints
maxOf3 :: Int -> Int -> Int -> Int
maxOf3 x y z = maxOf2 x (maxOf2 y z)

-- | Returns True if the character represents a digit ’0’..’9’;
-- False otherwise
isADigit :: Char -> Bool
isADigit x = ord x >= 48 && ord x <= 57

-- | Returns True if the character represents an alphabetic
-- character either in the range ’a’..’z’ or in the range ’A’..’Z’;
-- False otherwise
isAlpha :: Char -> Bool
isAlpha x
    | ord x >= 65 && ord x <= 90 = True
    | ord x >= 97 && ord x <= 122 = True
    | otherwise = False

-- | Returns the integer [0..9] corresponding to the given character.
-- Note: this is a simpler version of digitToInt in module Data.Char,
-- which does not assume the precondition.
digitToInt :: Char -> Int
-- Pre: the character is one of ’0’..’9’
digitToInt x = (ord x) - 48

-- | Returns the upper case character corresponding to the input.
-- Uses guards by way of variety.
toUpper :: Char -> Char
toUpper x
    | ord x >= 97 && ord x <= 122 = chr ((ord x) - 32)
    | otherwise = x


--
-- Sequences and series
--

-- | Arithmetic sequence
arithmeticSeq :: Double -> Double -> Int -> Double
arithmeticSeq a d n = a + ((fromIntegral n) * d)

-- | Geometric sequence
geometricSeq :: Double -> Double -> Int -> Double
geometricSeq a r n = a * (r ** (fromIntegral n))

-- | Arithmetic series
arithmeticSeries :: Double -> Double -> Int -> Double
arithmeticSeries a d n = ((fromIntegral n)+1) * (a + ((d*(fromIntegral n))/2))

-- | Geometric series
geometricSeries :: Double -> Double -> Int -> Double
geometricSeries a r n
    | r == 1 = a * ((fromIntegral n) + 1)
    | otherwise = a * ((1-(r ** ((fromIntegral n) + 1)))/(1-r))
```

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-------- Test Output --------
[1 of 3] Compiling IC.TestSuite     ( IC/TestSuite.hs, IC/TestSuite.o )
[2 of 3] Compiling Sequences        ( Sequences.hs, Sequences.o )
[3 of 3] Compiling Tests            ( Tests.hs, Tests.o )
maxOf2: 3 / 3

maxOf3: 3 / 3

isADigit: 2 / 2

isAlpha: 2 / 2

digitToInt: 2 / 2

toUpper: 2 / 2

arithmeticSeq: 4 / 4

geometricSeq: 4 / 4

arithmeticSeries: 4 / 4

geometricSeries: 4 / 4

copying Tests.hs from skeleton
[3 of 3] Compiling Tests            ( Tests.hs, Tests.o )
maxOf2: 3 / 3

maxOf3: 3 / 3

isADigit: 2 / 2

isAlpha: 2 / 2

digitToInt: 2 / 2

toUpper: 2 / 2

arithmeticSeq: 4 / 4

geometricSeq: 4 / 4

arithmeticSeries: 4 / 4

geometricSeries: 4 / 4


-------- Test Errors --------
Checking https://repo1.maven.org/maven2/org/scala-lang/scala3-library_3/
Checked https://repo1.maven.org/maven2/org/scala-lang/scala3-library_3/
Downloading https://repo1.maven.org/maven2/org/scala-lang/scala3-library_3/
Downloaded https://repo1.maven.org/maven2/org/scala-lang/scala3-library_3/
Checking https://repo1.maven.org/maven2/org/scala-lang/scala3-library_3/maven-metadata.xml
Checked https://repo1.maven.org/maven2/org/scala-lang/scala3-library_3/maven-metadata.xml
Downloading https://repo1.maven.org/maven2/org/scala-lang/scala3-library_3/maven-metadata.xml
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