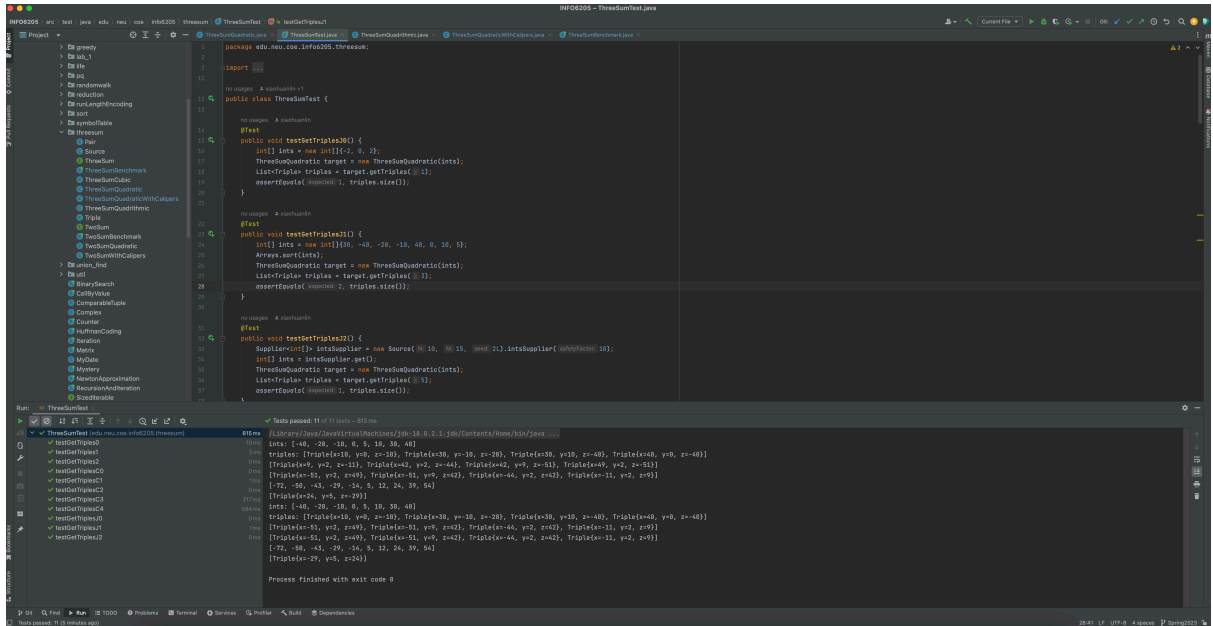


Program Structures and Algorithms
Spring 2023(SEC-8)
Assignment 2

NAME: Hao Zhou
NUID: 002749956

Evidence of Unit Test Screenshots:



spreadsheet showing timing observations

	A	B	C	D	E	F	G
N			Quadratic		Quadrithmic		Cubic
			mSec		mSec		mSec
250	Raw time		6		3		8
	Normalized		96		6.03		0.51
500	Raw time		4		5		26
	Normalized		16		2.23		0.21
1000	Raw time		13		15		173
	Normalized		13		1.51		0.17
2000	Raw time		22		59		1342
	Normalized		5.5		1.35		0.17
4000	Raw time		97		293		10779
	Normalized		6.06		1.53		0.19

Why the quadratic method(s) work

In the quadratic method, it always get the middle index. Recording the sum of middle, we can know whether we should change the first sub-space or the third. Hence we can only iterator once for the whole array, that's why it cost less time than quadrithmic and cubic method.