Brandon Bardwell

Computer Science II

2-9-2020

Module 2 Assignment 1:

My Code

**import** java.util.Scanner;

**public** **class** Main {

**public** **static** **void** main(String[] args) {

System.***out***.print("Enter a positive integer: ");

**int** num = **new** Scanner(System.***in***).nextInt();

StackOfIntegers stack = **new** StackOfIntegers(20);

**int** factor = 2;

**while** (factor <= num) {

**if** (num % factor == 0) {

stack.push(factor);

num /= factor;

} **else** {

factor++;

}

}

**while** (!stack.empty()) {

System.***out***.print(stack.pop() + " ");

}

}

}

**public** **class** StackOfIntegers {

**private** **int**[] elements;

**private** **int** size;

/\*\* Construct a stack with the default capacity 16 \*/

**public** StackOfIntegers() {

**this**(16);

}

/\*\* Construct a stack with the specified maximum capacity \*/

**public** StackOfIntegers(**int** capacity) {

elements = **new** **int**[capacity];

}

/\*\* Push a new integer into the top of the stack \*/

**public** **int** push(**int** value) {

**if** (size >= elements.length) {

**int**[] temp = **new** **int**[elements.length \* 2];

System.*arraycopy*(elements, 0, temp, 0, elements.length);

elements = temp;

}

**return** elements[size++] = value;

}

/\*\* Return and remove the top element from the stack \*/

**public** **int** pop() {

**return** elements[--size];

}

/\*\* Return the top element from the stack \*/

**public** **int** peek() {

**return** elements[size - 1];

}

/\*\* Exercise03\_21 whether the stack is empty \*/

**public** **boolean** empty() {

**return** size == 0;

}

/\*\* Return the number of elements in the stack \*/

**public** **int** getSize() {

**return** size;

}

}

My Code Output:

Enter a positive integer: 1996

499 2 2

For this assignment I originally tried to understand the code from a github page, however there were errors and I didn’t know how to resolve them. I found a different page that had this complete code, and I also watched the video that is provided. I get confused with the math portion of it, but I am getting a better understanding of the way methods work. Here are the websites that I used.

<https://github.com/jsquared21/Intro-to-Java-Programming/blob/master/Exercise_10/Exercise_10_05/Exercise_10_05.java>

<http://soultionmanual.blogspot.com/2016/09/chapter-10-exercise-5-introduction-to.html>