Quiz #1 – Using Decision Control Structures

NAME: JOSHUA ESTRADA **SECTION: _CEIT-37-302P_**

1. Create a program using ***Decision Control Structures*** to input integer from zero (0) to not more than four-digit integer. Display how many digit/s inputted by the user and the equivalent inputted number in words. Output "**Invalid Input**" if the inputted integer is not within the range.

Sample screen Layout/output: (VALID INPUT)

```
This program using Decision Control Structures displays how many digit/s
inputted by the user and the equivalent inputted number in words.

        Enter an Integer Number:  2345

        You entered a four digit number.
        The number is 2345
        The number in words:  Two Thousand Three Hundred Forty Five
```

Sample screen Layout/output: (INVALID INPUT)

```
This program using Decision Control Structures displays how many digit/s
inputted by the user and the equivalent inputted number in words.

        Enter an Integer Number:  23456

        You entered an INVALID INPUT.
```

2. Input Integers using the following as sample data:
   a. Any integer less than 0
   b. Any integer greater than four digits.
   c. Any integer ranges from Eleven to Nineteen (11 – 19).
   d. 215
   e. 5345
   f. 7001

3. Screenshot/Print Screen the hand written source code and the outputs of your program.
4. Submit **hand written** source code (Java Program codes) and **5 sample outputs** (#2a. to #2f.) in ***PDF format*** in **Google Classroom**.

***NOTE**: *DO NOT USE ARRAYS for your solutions.*

Filename: Quiz#1_Lastname_Firstname(Initial)_Middle Initial.pdf

```java
import java.util.Scanner;

public class ESTRADAQUIZ1 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.println("This program using Decision Control Structures
displays how many digit/s\ninputted by the user and the equivalent inputted
number in words.");
        System.out.print("  Enter an Integer Number: ");
        int number = scanner.nextInt();

        if (number < 0 || number > 9999) {
            System.out.println("  You entered an INVALID INPUT.");
        } else {
            int numDigits = countDigits(number);
            String numberInWords = convertToWords(number);

            System.out.println("  You entered a " + getDigitName(numDigits) +
" digit number.");
            System.out.println("  The number is " + number);
            System.out.println("  The number in words: " + numberInWords);
        }

        scanner.close();
    }


    public static int countDigits(int number) {
        if (number == 0) {
            return 1;
        }

        int count = 0;
        while (number != 0) {
            number /= 10;
            count++;
        }
        return count;
    }

    public static String convertToWords(int number) {
        if (number == 0) {
            return "Zero";
        }

        String words = "";
        int thousands = number / 1000;
        int hundreds = (number / 100) % 10;
        int tens = (number / 10) % 10;
        int ones = number % 10;

        if (thousands > 0) {
            words += getDigitName(thousands) + " Thousand ";
        }

        if (hundreds > 0) {
            words += getDigitName(hundreds) + " Hundred ";
```

```
        }

        if (tens > 1) {
            words += getTensName(tens) + " ";
            if (ones > 0) {
                words += getDigitName(ones) + " ";
            }
        } else if (tens == 1) {
            words += getTeensName(ones + 10) + " ";
        } else if (ones > 0) {
            words += getDigitName(ones) + " ";
        }

        return words.trim();
    }


    public static String getDigitName(int digit) {
        switch (digit) {
            case 1:
                return "One";
            case 2:
                return "Two";
            case 3:
                return "Three";
            case 4:
                return "Four";
            case 5:
                return "Five";
            case 6:
                return "Six";
            case 7:
                return "Seven";
            case 8:
                return "Eight";
            case 9:
                return "Nine";
            default:
                return "";
        }
    }
    public static String getTensName(int tens) {
        switch (tens) {
            case 10:
                return "Ten";
            case 20:
                return "Twenty";
            case 30:
                return "Thirty";
            case 40:
                return "Forty";
            case 50:
                return "Fifty";
            case 60:
                return "Sixty";
            case 70:
                return "Seventy";
```

```
            case 80:
                return "Eighty";
            case 90:
                return "Ninety";
            default:
                return "";
        }
    }

    public static String getTeensName(int teens) {
        switch (teens) {
            case 11:
                return "Eleven";
            case 12:
                return "Twelve";
            case 13:
                return "Thirteen";
            case 14:
                return "Fourteen";
            case 15:
                return "Fifteen";
            case 16:
                return "Sixteen";
            case 17:
                return "Seventeen";
            case 18:
                return "Eighteen";
            case 19:
                return "Nineteen";
            default:
                return "";
        }
    }
}
```

VALID INPUT

```
 This program using Decision Control Structures displays how many digit/s
 inputted by the user and the equivalent inputted number in words.
   Enter an Integer Number: 1485
   You entered a Four digit number.
   The number is 1485
   The number in words: One Thousand Four Hundred  Five

 Process finished with exit code 0
```

INVALID INPUT

```
This program using Decision Control Structures displays how many digit/s
inputted by the user and the equivalent inputted number in words.
  Enter an Integer Number: 14857
  You entered an INVALID INPUT.

Process finished with exit code 0
```

2. Input Integers using the following as sample data:

a. Any integer less than 0

```
This program using Decision Control Structures displays how many digit/s
inputted by the user and the equivalent inputted number in words.
  Enter an Integer Number: -100
  You entered an INVALID INPUT.

Process finished with exit code 0
```

```
This program using Decision Control Structures displays how many digit/s
inputted by the user and the equivalent inputted number in words.
  Enter an Integer Number: -1000
  You entered an INVALID INPUT.

Process finished with exit code 0
```

c. Any integer ranges from Eleven to Nineteen (11 – 19).

```
This program using Decision Control Structures displays how many digit/s
inputted by the user and the equivalent inputted number in words.
  Enter an Integer Number: 14
  You entered a Two digit number.
  The number is 14
  The number in words: Fourteen

Process finished with exit code 0
```

d. 215

```
This program using Decision Control Structures displays how many digit/s
inputted by the user and the equivalent inputted number in words.
  Enter an Integer Number: 215
  You entered a Three digit number.
  The number is 215
  The number in words: Two Hundred Fifteen

Process finished with exit code 0
```

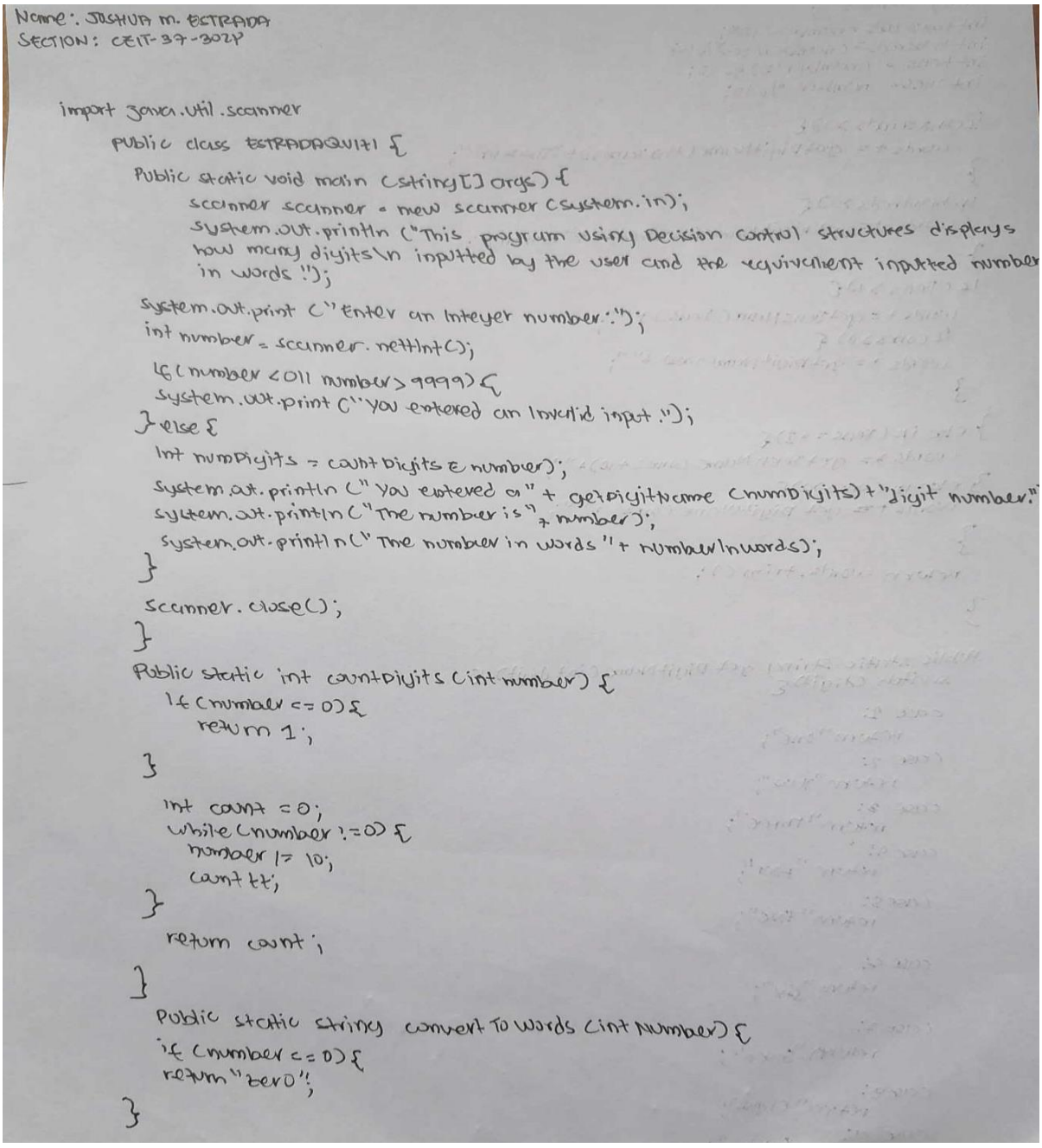
e. 5345

```
This program using Decision Control Structures displays how many digit/s
inputted by the user and the equivalent inputted number in words.
  Enter an Integer Number: 5345
  You entered a Four digit number.
  The number is 5345
  The number in words: Five Thousand Three Hundred  Five

Process finished with exit code 0
```

f. 7001

```
This program using Decision Control Structures displays how many digit/s
inputted by the user and the equivalent inputted number in words.
  Enter an Integer Number: 7001
  You entered a Four digit number.
  The number is 7001
  The number in words: Seven Thousand One

Process finished with exit code 0
```

HAND WRITTEN SOURCE CODE



```
Name: JOSHUA M. ESTRADA
SECTION: CEIT-37-302P

import java.util.scanner
    public class ESTRADAQUIZ1 {
      Public static void main (string[] args) {
          scanner scanner = new scanner (system.in);
          system.out.println ("This program using Decision control structures displays
          how many digits\n inputted by the user and the equivalent inputted number
          in words !");
      System.out.print ("enter an Integer number:");
      int number = scanner. nettInt();
       if (number <011 number>9999) {
       system.out.print ("you entered an invalid input.!");
      } else {
       int numDigits = countDigits (number);
       System.out.println ("You entered a" + getDigitName (numDigits) + "digit number."
       system.out.println ("The number is" + number);
        system.out.println ("The number in words" + numberInwords);
      }
       scanner.close();
      }
      Public static int countDigits (int number) {
        if (number <= 0) {
          return 1;
      }
        int count = 0;
        while (number != 0) {
          number /= 10;
          count ++;
      }
        return count;
      }
        Public static string convertToWords (int Number) {
        if (number <= 0) {
        return "zero";
    }
```

```
String words = "";
int thousands = number / 1000;
int hundreds = (number / 100) % 10;
int tens = (number / 10) % 10;
int ones = number % 10;

if (thousands > 0) {
    words += getDigitName(thousands) + "Thousand";
}
if hundreds > 0) {
    words += getDigitName(hundreds) + "Hundred";
}
if (tens > 1) {
    words += getTensName(Tens) + " ";
    if (ones > 0) {
    words += getDigitName(ones) + " ";
    }
} else if (Tens == 1) {
    words += getTeenName (ones + 10) + " ";
} else if (ones > 0) {
    words += getDigitName(ones) + " ";
}
return words.trim();
}

Public static String getDigitName(int digit) {
    switch (digit) {
    case 1:
        return "One";
    case 2:
        return "Two";
    case 3:
        return "Three";
    case 4:
        return "Four";
    case 5:
        return "Five";
    case 6:
        return "Six";
    case 7:
        return "Seven";
    case 8:
        return "Eight";
    case 9:
        return "Nine";
```

```
    default:
        return "";
    }
}

Public static String getTensName(int tens) {
  switch(tens) {
    case 10:
      return "Ten";
    case 20:
      return "Twenty";
    case 30:
      return "thirty";
    case 40:
      return "Fourthy";
    case 50:
      return "Fifty";
    case 60:
      return "sixty";
    case 70:
      return "seventy";
    case :80
      return "Eighty";
    case90
      return "Ninety";
    default:
      return "";
  }
}

Public static string gettieensName(int Teens) {
  switch(Teens) {
    case 11:
      return "eleven";
    case 12:
      return "Twelve";
    case 13:
      return "Thirteen";
    case 14:
      return "Fourteen";
    case 15:
      return "Fifteen";
```

```
case 16:
    return "sixteen";
case 17:
    return "seventeen";
case 18:
    return "Eighteen";
case 19:
    return "Nineteen";
default:
    return "";
}
}
}
```