Program 3 Check Digits

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Class : comp sci 101 -002 TuTh 5:30-6:45

Program: number #3 Check Digits

1. Welcome to the assignment # validator
2. Ask user to enter assignment number
3. Put the user input into a series of validations
   1. Check if there are 13 characters
      1. If characters not 13 Warn the user return to step 3
   2. Check to make sure the characters are 1-9 and A-F
      1. If characters not 1-9 and A-F warn the user and return to step 3
   3. Check to see if first character is A-D
      1. If first character not A-D Warn the user and return to step 3
   4. Check to see if second Character is A-E
      1. If second character not A-E warn the user and return to step 3
4. If step 4 Validates we must validate the characters with the Validation table.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Character | B | A | F | 1 | 8 | 9 | D | 2 | 3 | 4 | E | A | 2 |
| value | 11 | 10 | 15 | 1 | 2 | 9 | 13 | 2 | 3 | 4 | 14 | 10 |  |
| Weight | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |  |
| Product | 0 | 10 | 30 | 3 | 32 | 45 | 78 | 14 | 24 | 36 | 140 | 110 |  |

* 1. We will use the last digit or check digit to validate the assignment number. This ensures that we avoid input errors.
  2. Each character has a assigned value. For example 1 = 1 , 2 = 2,.....A = 10...F = 15. The place in the digits will assign it a weight. First digit is 0 through last digit being 11.
  3. We multiply the character value with the weight. We do not multiply the check digit.
  4. We add the product of the characters to get a total value in this case 522.
  5. We will divide the sum total by 10.
  6. We will check to see if the remainder equals the check digit.
  7. If it does not Warn the user and return to step 3

1. If the assignment number matches let the user know it is valid
   1. Use the first two digits to give the user feedback
      1. First digit lets the user know what class it is.
         1. A = CS101, B = CS191, C=CS201 , D= CS291
      2. The second digit let the user know what assignment it is.
         1. A = Test, B = Program, C=Quiz , D= Final, F = Other
   2. Output the value
      1. Ex. Assignment BAF189D234EA2 is for class CS191, and is a test
2. Repeat step 3.
3. If user entry is blank end program.
   1. Thank you for entering data