**HOW TO REVERSE AN INTEGER**

*(USING WHILE LOOP)*

In this program, while loop is used to reverse an integer:

We have declared an *integer num* and assigned it with a value of *1234*.

Then another *integer reversed* and assigned it with a value of *0*.

Then another *integer digit* and assigned it with a value of *0*.

Then we uses *while* loop with a condition of *num != 0*.

* At first iteration of the loop:
  + We divide the value of *num* by *10* and get the remainder then assigned it to the *integer digit*. So the value of digit is now *4* since the value of *num* is *1234*.
  + Then we multiply the value of *reversed* by *10* then add the value of *digit* onto it. After the first iteration, *reversed* now has a value of *4*.
  + Then we change the value of *num* by dividing it to *10* and assigning the answer into it. After this iteration, *num* now has a value of *123* since *integer* data type does not take non-whole numbers.
* At the second iteration of the loop:
  + We divide the value of *num* by *10* again and get the remainder then assigned it to the *integer digit*. So the value of digit is now *3* since the value of *num* is *123* as a result of the first iteration.
  + Then we multiply the value of *reversed* by *10* again and add the value of *digit* onto it. After this iteration, *reversed* now has a value of *43*.
  + Then we change the value of *num* by dividing it to *10* again and assigning the answer into it. After this iteration, *num* now has a value of *12* since *integer* data type does not take non-whole numbers.
* At the third iteration of the loop:
  + We divide the value of *num* by *10* again and get the remainder then assigned it to the *integer digit*. So the value of digit is now *2* since the value of *num* is *12* as a result of the second iteration.
  + Then we multiply the value of *reversed* by *10* again and add the value of *digit* onto it. After this iteration, *reversed* now has a value of *432*.
  + Then we change the value of *num* by dividing it to *10* again and assigning the answer into it. After this iteration, *num* now has a value of *1* since *integer* data type does not take non-whole numbers.
* At the fourth iteration of the loop:
  + We divide the value of *num* by *10* again and get the remainder then assigned it to the *integer digit*. So the value of digit is now *1* since the value of *num* is *1* as a result of the third iteration.
  + Then we multiply the value of *reversed* by *10* again and add the value of *digit* onto it. After this iteration, *reversed* now has a value of *4321*.
  + Then we change the value of *num* by dividing it to *10* again and assigning the answer into it. After this iteration, *num* now has a value of *0* since *integer* data type does not take non-whole numbers.
* At this point, the condition for our *while* loop is now false since the value of *num* is now equals to zero. The loop terminates and the program control passes to the line immediately following the loop.
* Now the next line prints the value of *reversed*.