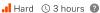
# Work on project. Stage 4/4: Convert fractions

completion was less than a minute ago. Project: Number Base Converter



## Description

Fractional numbers can also be converted from one base to another, so let's add this functionality to our program!

To convert a fractional number from one base to another, you need to split the number into two parts: integer and fractional. Convert each part from their base to decimal independently and then convert them (once again, separately) to the target base. Finally, combine both parts and get the final result!

The most challenging part will probably be converting the decimal fractional part to the target base. Don't worry, though: since you already know how to convert fractions from decimal to binary, it should not be a problem for you! Converting fractions from decimal to any base is practically the same: just use the proper denominator, which is the target base, instead of 2.

The example below shows how to convert the number 0.375 from decimal to base 20:

2 / 2 Prerequisites In project		
<b>~</b>	BigDecimal 1>>	
<b>~</b>	Decimal to binary:  fractions  In project  In project  Image: The project of the	

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Fractional	Integer
<b>0.375</b> * 20 =	<b>7</b> + 0.5
<b>0.5</b> * 20 =	<b>10</b> + 0.0

Result:  $0.375_{10} = 0.7a_{20}$ 

Just like in the previous stage, the input numbers can be large. You might want to consider using java.math.BigDecimal to handle large fractions. Check the <u>documentation</u> on BigDecimal.

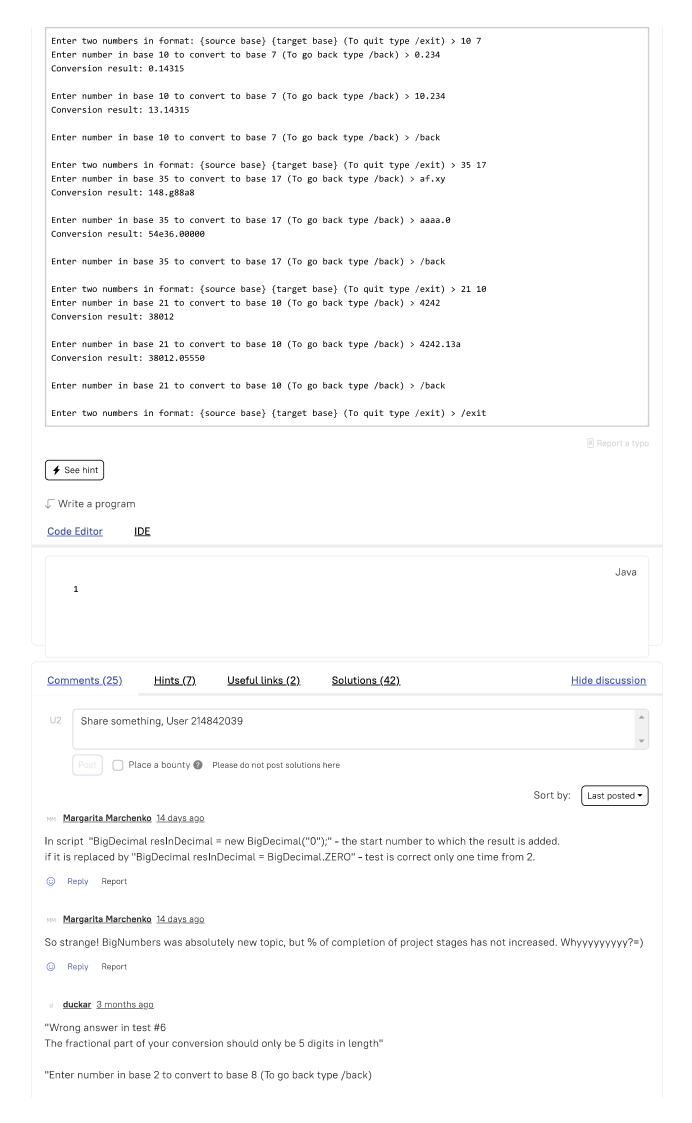
#### **Objectives**

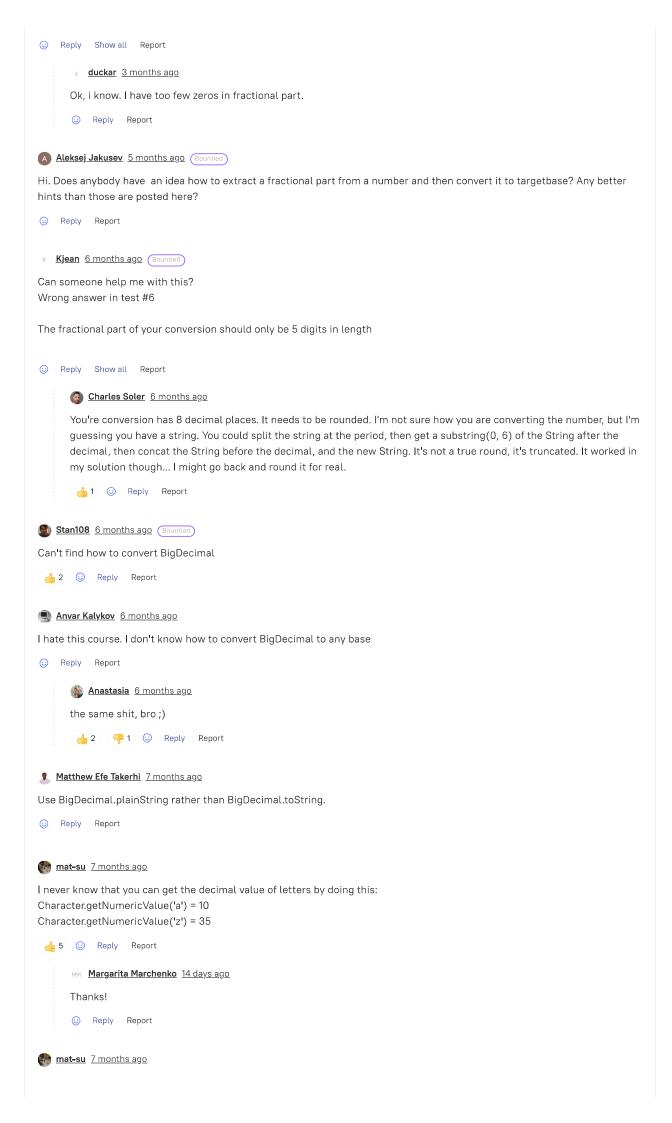
Your program should behave almost the same way as in the previous stage: the two-level menu and the commands stay the same.

When your program gets a fractional number, it should output its representation in the target base rounded to 5 characters (digits or letters) in the fractional part. If there is no fractional part in the initial number, it should be omitted in the resulting number, too.

### Example

The greater-than symbol followed by a space ( > ) represents the user input. Note that it's not part of the input.





I was surprised that there was a simplest and fastest way to convert a source to its target base. https://www.geeksforgeeks.org/biginteger-tostring-method-in-java/ 👍 2 😊 Reply Report us <u>User 92646548</u> 7 months ago Excellent find, although I'm not sure this is what the task intended!:) Reply Report Gilbert Almazan 7 months ago (Bountied) Exception in test #6 java.lang.NumberFormatException: Character f is neither a decimal digit number, decimal point, nor "e" notation exponential at java.base/java.math.BigDecimal.<init>(BigDecimal.java:511) © Reply Report Gilbert Almazan 7 months ago https://pastebin.com/jAsvc00t can anyone teach me how to convert the fractal value into alphabets base on target base © Reply Report us <u>User 92646548</u> 7 months ago Do you still need help Gilbert? Reply Report Master of Ceremony 7 months ago Ok so basically it looks like in that particular test a character 'f' has been passed as a parameter. So what you should do is validation of an input if passed parameter is a number type. Reply Report A Angelina 8 months ago Bountied I do not pass test #6: "The conversion result of your program is wrong". The given input is the number 110111010.10000 in base 2 and it shall be converted to base 5. My output String is: "Conversion result: 3232.10000" First, I split the fractional and integer parts and then I converted the fractional part to decimal from there I converted it with © Reply Report Gilbert Almazan 7 months ago same problem here © Reply Report Michał 7 months ago Look at your fraction part - according to your answer it is the same in both base 2 and base 5 which cannot be true. 0.1 base 2 = 0.5 decimal 0.1 base 5 = 0.2 decimal © Reply Report Taz 8 months ago I believe course is incomplete it never taught us to convert decimal to any base → 7 (♥3) © Reply Report Taz 8 months ago I am talking about decimal fraction to fraction of any base 👍 6 😊 Reply Report

us <u>User 92646548</u> 7 months ago

Hi, use this link and convert a simple number like 0.A  $\underline{\text{https://www.rapidtables.com/convert/number/hex-to-decimal.html}}$ 

Then convert another like 0.A1

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