

1432

Max difference you can
get from changing an Integer

Input

Integer \rightarrow num

Output

Maximum difference between
a and b

\Rightarrow a and b are 2 integers
 \Rightarrow replace any particular digit of
num with some other digit

\Rightarrow do it 2 times to create 2
different integers \rightarrow a, b

\Rightarrow a and b should not
be 0 and should not have
a leading 0

ex ①

num = 555
pick 5 replace with 9

999 → a

pick 5 replace with 1

111 → b

a - b ⇒ 999 - 111

⇒ 888 → output

ex ②

num ⇒ 1125

a → 1 → 9

↳ 9925

b → 2 → 0

↳ 1105

9925 - 1105

⇒ 8820 ✓

ex ③

224527

a → 2 → 9 → 994597

b → 2 → 1 → 114517

a - b → 880080

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Goal $\rightarrow (a - b)$
 \hookrightarrow Should be maximum

$\rightarrow a$ should be as high as possible

$\rightarrow b$ should be as low as possible

9999
1125 \rightarrow num
*) $\downarrow \downarrow a$
9925

9981 \rightarrow num
 $\downarrow \downarrow \downarrow \downarrow$
9991

1000
1125 \rightarrow num
*) $\quad \quad b$

9981 \rightarrow num
1181

2 \rightarrow 0
1105

(should not be 0, no leading zeros)