

- Write a class `Permutator` to work with the class driver shown below. The purpose of the `Permutator` class is to generate all the possible permutations of a 5-digit number or a 5-letter word.

```
import java.util.*;
public class PermutatorDriver
{
    public static void main( String args[] )
    {
        System.out.print( "Enter a 5-letter word or 5-digit number . . . " );
        String subject = SavitchIn.readLine();
        Permutator.run( subject );
    }
}
```

## OUTPUT

Enter a 5-letter word or 5-digit number . . . ABCDE

PERMUTATIONS:

```
ABCDE EABCD DEABC CDEAB BCDEA
ACDEB BACDE EBACD DEBAC CDEBA
ADEBC CADEB BCADE EBCAD DEBCA
AEBCD DAEBC CDAEB BCDAE EBCDA
ACDBE EACDB BEACD DBEAC CDBEA
ADBEC CADBE ECADB BECAD DBECA
ABECD DABEC CDABE ECDAB BECDA
AECDB BAECD DBAEC CDBAE ECDBA
ADBCE EADBC CEADB BCEAD DBCEA
ABCED DABCE EDABC CEDAB BCEDA
ACEDB BACED DBACE EDBAC CEDBA
AEDBC CAEDB BCAED DBCAE EDBCA
ACBDE EACBD DEACB BDEAC CBDEA
ABDEC CABDE ECABD DECAB BDECA
ADECB BADEC CBADE ECBAD DECBA
AECBD DAECB BDAEC CBDAE ECBDA
ABDCE EABDC CEABD DCEAB BDCEA
ADCEB BADCE EBADC CEBAD DCEBA
ACEBD DACEB BDACE EBDAC CEBDA
AEBDC CAEBD DCAEB BDCAE EBDCA
ADCBE EADCB BEADC CBEAD DCBEA
ACBED DACBE EDACB BEDAC CBEDA
ABEDC CABED DCABE EDCAB BEDCA
AEDCB BAEDC CBAED DCBAE EDCBA
```

120 permutations. No matches found!

2. Modify the program so that it works for any word or number (enter 123456).

(only part of the output is shown below)

124653 312465 531246 653124 465312 246531  
146532 214653 321465 532146 653214 465321  
165324 416532 241653 324165 532416 653241  
124356 612435 561243 356124 435612 243561  
143562 214356 621435 562143 356214 435621  
135624 413562 241356 624135 562413 356241  
156243 315624 431562 243156 624315 562431  
162435 516243 351624 435162 243516 624351  
143526 614352 261435 526143 352614 435261  
135264 413526 641352 264135 526413 352641  
152643 315264 431526 643152 264315 526431  
126435 512643 351264 435126 643512 264351  
164352 216435 521643 352164 435216 643521  
135246 613524 461352 246135 524613 352461  
152463 315246 631524 463152 246315 524631  
124635 512463 351246 635124 463512 246351  
146352 214635 521463 352146 635214 463521  
163524 416352 241635 524163 352416 635241  
152436 615243 361524 436152 243615 524361  
124365 512436 651243 365124 436512 243651  
143652 214365 521436 652143 365214 436521  
136524 413652 241365 524136 652413 365241  
165243 316524 431652 243165 524316 652431  
143256 614325 561432 256143 325614 432561  
132564 413256 641325 564132 256413 325641  
125643 312564 431256 643125 564312 256431  
156432 215643 321564 432156 643215 564321  
164325 516432 251643 325164 432516 643251  
132546 613254 461325 546132 254613 325461  
125463 312546 631254 463125 546312 254631  
154632 215463 321546 632154 463215 546321  
146325 514632 251463 325146 632514 463251  
163254 416325 541632 254163 325416 632541  
125436 612543 361254 436125 543612 254361  
154362 215436 621543 362154 436215 543621  
143625 514362 251436 625143 362514 436251  
136254 413625 541362 254136 625413 362541  
162543 316254 431625 543162 254316 625431  
154326 615432 261543 326154 432615 543261  
143265 514326 651432 265143 326514 432651  
132654 413265 541326 654132 265413 326541  
126543 312654 431265 543126 654312 265431  
165432 216543 321654 432165 543216 654321

720 permutations. No matches found!