

# ECOO '14 R1 P3 - Word Search

**Time limit:** 1.0s **Memory limit:** 64M

The word search puzzle below contains a secret message. To get this message, you have to find all the clue words in the puzzle (the words shown beside it) and circle them. Then you read any un-circled letters that remain from top left to bottom right to get the secret message. The clue words might appear horizontally, vertically, or diagonally. They might read forwards, backwards, downwards or upwards. Clue words can share any number of letters. Each clue word appears exactly once in the puzzle.

## The Puzzle

```
K L I M T S E I N W O R B C H O C
C G O L Y N A S E M I S W E E T T
E H N C S D E N E T E E W S N U O
R C I I O E N I I G F I L L I N G
S I O P K C L A D N A B F T E S E
K F R N S A O F C E I O O M C T V
N R H E F D B A F T R S O E H E I
I C A T A E R T T U I G D D O G T
R O R D S N C E C C R O N S C N C
D O W E F T R T E U T T U I O I I
G K H T A S P C I R P O H F L D D
N I I E W M R U E O I C O T A D D
I E T E S E P S R C N N A H T U A
C S E S A E S I I Y D E B K I P O
I T I M B E R L E U S A R O E A M
A W F U D G E C E A R C A Y R S O
S U G A R D T E S S U O M R S E E
```

## The Clue Words

ADDICTIVE	DARK	PUDDING
BAKING	DECADENT	SEMISWEET
BARS	DELICIOUS	SUGAR
BITTERSWEET	DESSERT	SWISS
BROWNIES	DRINKS	SYRUP
CAKES	FILLING	TREAT
CANDY	FONDUE	TRUFFLES
CHIPS	FOOD	UNSWEETENED
CHOCOLATIERS	FUDGE	WHITE
COCOA	ICE CREAM	
CONFECTIONERY	ICING	
COOKIES	INGREDIENT	
CREAM PIE	MILK	
CUPCAKE	MOUSSE	

In this case, the secret message is "CHOCOLATE ORIGINATES FROM THE SEEDS OF THE THEOBROMA CACAO TREE". The locations of the words in the puzzle are shown below.

The input will contain 5 test cases.

Each test case starts with a line containing two integers  $R$  and  $C$  separated by a space character.  $R$  and  $C$  represent the number of rows and columns in the board ( $1 \leq R, C \leq 30$ ). This is followed by  $R$  lines, each containing  $C$  uppercase letters. This is the puzzle board.

The next line contains an integer  $M$  representing the number of clue words ( $M < 100$ ) and then the next  $M$  lines contain one clue word each. Clue words will be written in uppercase and will contain fewer than 100 characters, but they might contain spaces, apostrophes or other punctuation, all of which should be ignored when searching for the words on the board.

Note that the sample input below contains only a single test case, but the real data files will contain 5 test cases, one after another, with no blank lines in between.

**Word Search puzzles courtesy of  
Livewire Puzzles  
(<https://www.puzzles.ca>)**

## Sample Input

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17 17

KLIMTSEINWORBCHOC  
CGOLYNASEMISWEETT  
EHNCSDENETEESNUO  
RCIIOENIIGFILLING  
SIOPKCLADNABFTESE  
KFRNSAOFCEIROOMCTV  
NRHEFDBAFTRSOEHEI  
ICATAERTTUIGDDOGT  
RORDSNCECCRONSCNC  
DOWEFTRTEUTTUIOII  
GKHTASPCIRPOHFLDD  
NIEWMRUEOICOTADD  
IETESEPSRCNNAHTUA  
CSESAESIIYDEBKIPO  
ITIMBERLEUSAROEAM  
AWFUDGECEARCAYRSO  
SUGARDTESSUOMRSEE

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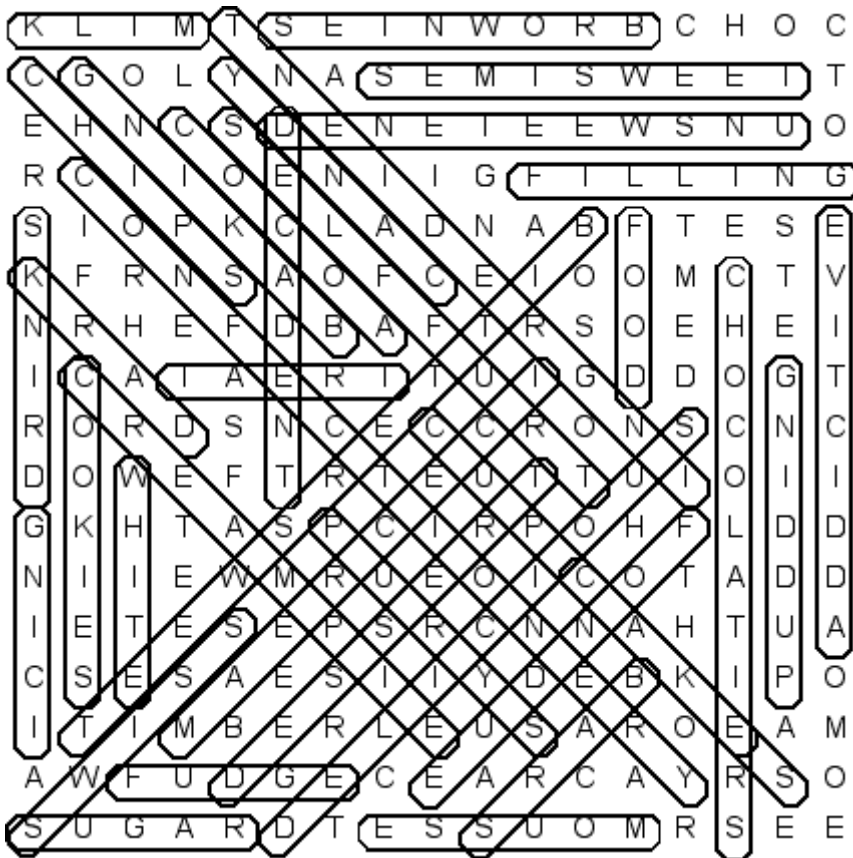
ADDICTIVE  
BAKING  
BARS  
BITTERSWEET  
BROWNIES  
CAKES  
CANDY  
CHIPS  
CHOCOLATIERS  
COCOA  
CONFECTIONERY  
COOKIES  
CREAM PIE  
CUPCAKE  
DARK  
DECADENT  
DELICIOUS  
DESSERT  
DRINKS  
FILLING  
FONDUE  
FOOD  
FUDGE  
ICE CREAM  
ICING  
INGREDIENT  
MILK

MOUSSE  
 PUDDING  
 SEMISWEET  
 SUGAR  
 SWISS  
 SYRUP  
 TREAT  
 TRUFFLES  
 UNSWEETENED  
 WHITE

## Sample Output

CHOCOLATEORIGINATESFROMTHESEEDSOFTHETHEOBROMACACAOTREE

## Locations of the Words (Shown for Reference Only)



Educational Computing Organization of Ontario - statements, test data and other materials can be found at [ecoccs.org](http://ecoccs.org)