

**TCEA
HIGH SCHOOL
PROGRAMMING CONTEST**

JUDGE'S PACKET

**STATE PROBLEM SET
30 APRIL 2005**

**Texas Computer Education Association
2005 High School Programming Contest
State Problem Set**

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2.2 Look Before You Leap

2.3 Electoral College

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Problem 0.0 Sum Of The Negatives

Data File: pr00.dat

Test Input: -43 17 15 -1 23 -6 -56 88 75 -77 33 89 42 -32 0

Test Output: THE NEGATIVE SUM IS -215

Problem 2.1 TCEA Scoring

Data File: pr21.dat

Test Input: 7
 0 5 0
 4 6 6
 6 6 0
 1 1 1
 0 0 5
 2 3 4
 5 1 1

Test Output: 25
 92
 42
 16
 45
 55
 24

Problem 2.2 Look Before You Leap

Data File: pr22.dat

Test Input: 7
 2000
 2100
 1800
 1996
 1995
 2008
 2400

Test Output: leap year
 not a leap year
 not a leap year
 leap year
 not a leap year
 leap year
 leap year

Problem 2.3 Electoral College

Data File: pr23.dat

Test Input: 7
 10 7 8
 20 14 15
 30 56 42
 40 110 99
 50 500 1000
 60 2500 25000
 100 10000 9999

Test Output: 170 140

Problem 2.4 Pizza Puzzler

Data File: pr24.dat

Test Input: 7
 10 4
 100 30
 100 60
 10 12
 12 10
 6 12
 12 6

Test Output: 5
 10
 5
 5
 6
 1
 2

Problem 2.5 Lucky Numbers

Data File: pr25.dat

Test Input: 7
 10 4 5
 4 5 6 7 8 9 10 11 12 13 14 15
 25 13 17 2 6 9 8 20
 14 7 1 9 3 5
 28 7 14 21 24 27
 29 8 6 4 2 10 14 12 20 18 22 16 24 28 26
 13 12 6 8 9 10 7 11

Test Output: lucky
 lucky
 unlucky
 unlucky
 unlucky
 lucky
 unlucky

Problem 2.6 Jedi Master

Data File: pr26.dat

Test Input: 7
 this is the first line of text
 rock beats scissors
 scissors beats paper
 paper covers rock and everything else
 i am your father
 we are almost done
 there are many more problems after this

Test Output: the first line of text this is
 scissors rock beats
 paper scissors beats
 rock and everything else paper covers
 your father i am
 almost done we are
 many more problems after this there are

Test Output:

```
accept
reject
accept
accept
reject
accept
accept
```

Problem 5.2 Finding Nemo

Data File: pr52.dat

Test Input: 7
THE LENGTH OF THE CONTEST IS TWO HOURS.
HELEN
TO BE, OR NOT TO BE, THAT IS THE QUESTION.
BETH
TO BE, OR NOT TO BE, THAT IS THE QUESTION.
OTTO
THE QUICK, BROWN FOX JUMPS OVER THE LAZY DOG.
RON
DID THEY GO OUT LAST EVENING?
STEVE
NO, THEY STAYED INDOORS.
EDITH
NOT ON YOUR LIFE!
TONY

Test Output: FOUND
FOUND
FOUND
NOT FOUND
FOUND
NOT FOUND
FOUND

Test Output:

```
2
251
71
35
11112
23889
1516
```

Problem 5.4 Valid Passwords

Data File: pr54.dat

Test Input: 7
 \$400ABCD
 Aa1!
 if(!1)
 (%myList2)
 xyzzzy2ABCDE
 2^4Times
 HereIsABadPassword!

Test Output: invalid
 valid
 invalid
 valid
 invalid
 valid
 invalid

Problem 5.5 Time Translations

Data File: pr55.dat

Test Input: 7
 360 minutes hours
 240 hours days
 11 weeks days
 3 hours seconds
 2 weeks hours
 72000 seconds hours
 172800 seconds days

Test Output: 6
 10
 77
 10800
 336
 20
 2

Problem 5.6 Tic-Tac-Toe

Data File: pr56.dat

Test Input: 7
 XOO
 OXX
 OXO
 OXO
 XOO
 OXX
 OXX
 XXO
 OXO
 OXX
 XXO
 OOO
 XOO
 OXO
 OOX
 XXO
 OXX
 XOO
 XOO
 OXX
 XXO

Test Output: NO WINNER
 O WINS
 X WINS
 O WINS
 X WINS
 NO WINNER
 NO WINNER

Problem 9.1 Making Minesweeper

Data File: pr91.dat

Test Input: 7 5 7
 1 4
 5 2
 5 3
 2 5
 3 3
 4 4
 4 2

Test Output: 001*2
 0123*
 12*32
 2*5*1
 2**21
 12210
 00000

Problem 9.2 Spellchecker

Data File: pr92.dat

Test Input: 5 7
 usually
 rainbow
 product
 science
 medical
 produce
 scyence
 radical
 ideally
 bawling
 project
 painful

Test Output: product
 science
 medical
 usually
 rainbow
 product
 rainbow

Problem 9.3 Twenty-One

Data File: pr93.dat

Test Input: 7
 Q268 JJ 39T 85A
 A2 23 34 45
 J5 Q6 AAK 77
 QT 36A 569 AA234
 555 666 777 888
 AAAA KAAA KAA K5
 K39 778 J2T 22

Test Output: 2
 1
 2
 4
 3
 4
 4

Problem 9.4 String Along with Subsequences

Data File: pr94.dat

Test Input: 7
 summer sum
 chocolate coal
 caravan can
 interest inert
 onion on
 toothpaste tote
 abababab ab

Test Output: 2
 0
 3
 1
 3
 4
 10

Problem 9.5 Earth 2

Data File: pr95.dat

Test Input: 7
 9
 38
 83
 #0#0#0
 12345
 67890
 7#4

Test Output: 10
 42
 102
 974358
 17715
 114334
 1038

Problem 9.6 Final Examination

Data File: pr96.dat

Test Input: 7
 65 40 80 35
 0 0 70 50
 40 10 25 20
 92 20 72 40
 75 50 60 45
 90 33 50 33
 48 33 68 33

Test Output: 64
 70
 88
 57
 110
 70
 94