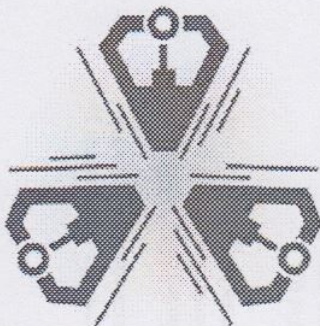


70
(семьдесят)

Жон
(Корныхин ЕВ)



РОБОФЕСТ

Олимпиада школьников

«РОБОФЕСТ-2016»

Заключительный этап по информатике

Фамилия Имя Отчество участника _____

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Класс 10 Школа ФМШ 2007

Дата 16.04.16 Подпись участника [Signature]

Шифр rob016_015

--- Task A ---

--- Solution 48-000008-34190-robo16_015-robo16_015-20160416160819.py ---

```
h, w = map(int, input().split())
board = []
for i in range(w + 2):
    board.append('#')
```

```
sx = 0
sy = 0
ex = 0
ey = 0
```

```
field = [board]
for i in range(h):
    iline = list(input())
    line = ['#']
    for k in range(w):
        line.append(iline[k])
        if iline[k] == '@':
            sx = i + 1
            sy = k + 1
        if iline[k] == 'E':
            ex = i + 1
            ey = k + 1
    line.append('#')
    field.append(line)
field.append(board)
#print(field)
#print(sx, sy)
#print(ex, ey)
```

```
x = sx
y = sy
oldx = 0
oldy = 0
res = ""
for i in range(100):
    if field[x-1][y] == 'E':
        field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x-1
        y = y
        res += 'U'
        #print('U')
        break
    elif field[x+1][y] == 'E':
        field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x+1
        y = y
        res += 'D'
        #print('D')
        break
    elif field[x][y-1] == 'E':
        field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x
        y = y-1
        res += 'L'
        #print('L')
        break
```

```
elif field[x][y+1] == 'E':  
    field[x][y] = 'A'  
    oldx = x  
    oldy = y  
    x = x  
    y = y+1  
    res += 'R'  
    #print('R')  
    break
```

```
elif field[x-1][y] == '.':  
    field[x][y] = 'A'  
    oldx = x  
    oldy = y  
    x = x-1  
    y = y  
    res += 'U'  
    #print('U')
```

```
elif field[x+1][y] == '.':  
    field[x][y] = 'A'  
    oldx = x  
    oldy = y  
    x = x+1  
    y = y  
    res += 'D'  
    #print('D')
```

```
elif field[x][y-1] == '.':  
    field[x][y] = 'A'  
    oldx = x  
    oldy = y  
    x = x  
    y = y-1  
    res += 'L'  
    #print('L')
```

```
elif field[x][y+1] == '.':  
    field[x][y] = 'A'  
    oldx = x  
    oldy = y  
    x = x  
    y = y+1  
    res += 'R'  
    #print('R')
```

```
else:  
    field[x][y] = '#'  
    #res = res[:-1]
```

```
if field[x-1][y] == 'A':  
    #field[x][y] = 'A'  
    oldx = x  
    oldy = y  
    x = x-1  
    y = y  
    res += 'U'  
    #print('U')
```

```
elif field[x+1][y] == 'A':  
    #field[x][y] = 'A'  
    oldx = x  
    oldy = y  
    x = x+1  
    y = y  
    res += 'D'  
    #print('D')
```

```
elif field[x][y-1] == 'A':  
    #field[x][y] = 'A'
```

```

        oldx = x
        oldy = y
        x = x
        y = y-1
        res += 'D'
        #print('L')
    elif field[x][y+1] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x
        y = y+1
        res += 'R'
        #print('R')

    #print(field)

#print('end')
print(res)
#for i in range(h+2):
    #print(field[i])

--- Solution 48-000010-34190-robo16_015-robo16_015-20160416161136.py ---
h, w = map(int, input().split())
board = []
for i in range(w + 2):
    board.append('#')

sx = 0
sy = 0
ex = 0
ey = 0

field = [board]
for i in range(h):
    iline = list(input())
    line = ['#']
    for k in range(w):
        line.append(iline[k])
        if iline[k] == '@':
            sx = i + 1
            sy = k + 1
        if iline[k] == 'E':
            ex = i + 1
            ey = k + 1
    line.append('#')
    field.append(line)
field.append(board)
#print(field)
#print(sx, sy)
#print(ex, ey)

x = sx
y = sy
oldx = 0
oldy = 0
res = ""
for i in range(100):
    if field[x-1][y] == 'E':
        field[x][y] = 'A'
        oldx = x
        oldy = y

```

```

x = x-1
y = y
res += 'U'
#print('U')
break
elif field[x+1][y] == 'E':
    field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x+1
    y = y
    res += 'D'
    #print('D')
    break
elif field[x][y-1] == 'E':
    field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y-1
    res += 'L'
    #print('L')
    break
elif field[x][y+1] == 'E':
    field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y+1
    res += 'R'
    #print('R')
    break

```

```

elif field[x-1][y] == '.':
    field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x-1
    y = y
    res += 'U'
    #print('U')
elif field[x+1][y] == '.':
    field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x+1
    y = y
    res += 'D'
    #print('D')
elif field[x][y-1] == '.':
    field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y-1
    res += 'L'
    #print('L')
elif field[x][y+1] == '.':
    field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y+1
    res += 'R'
    #print('R')

```

```

else:
    field[x][y] = '#'
    #res = res[: -1]

    if field[x-1][y] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x-1
        y = y
        res += 'U'
        #print('U')
    elif field[x+1][y] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x+1
        y = y
        res += 'D'
        #print('D')
    elif field[x][y-1] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x
        y = y-1
        res += 'D'
        #print('L')
    elif field[x][y+1] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x
        y = y+1
        res += 'R'
        #print('R')

    #print(field)

#print('end')
print(res)
#for i in range(h+2):
    #print(field[i])

```

--- Solution 48-000013-34190-robo16_015-robo16_015-20160416163818.py ---

```

h, w = map(int, input().split())
board = []
for i in range(w + 2):
    board.append('#')

sx = 0
sy = 0
ex = 0
ey = 0

```

```

field = [board]
for i in range(h):
    iline = list(input())
    line = ['#']
    for k in range(w):
        line.append(iline[k])

```

```

    if iline[k] == '@':
        sx = i + 1
        sy = k + 1
    if iline[k] == 'E':
        ex = i + 1
        ey = k + 1
    line.append('#')
    field.append(line)
field.append(board)
#print(field)
#print(sx, sy)
#print('end', ex, ey)

```

```

x = sx
y = sy
oldx = 0
oldy = 0
res = ""
for i in range(100000):
    if field[x-1][y] == 'E':
        field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x-1
        y = y
        res += 'U'
        #print('U')
        break
    elif field[x+1][y] == 'E':
        field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x+1
        y = y
        res += 'D'
        #print('D')
        break
    elif field[x][y-1] == 'E':
        field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x
        y = y-1
        res += 'L'
        #print('L')
        break
    elif field[x][y+1] == 'E':
        field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x
        y = y+1
        res += 'R'
        #print('R')
        break

```

```

elif field[x-1][y] == '.':
    field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x-1
    y = y
    res += 'U'
    #print('U')
elif field[x+1][y] == '.':
    field[x][y] = 'A'

```

```

    oldx = x
    oldy = y
    x = x+1
    y = y
    res += 'D'
    #print('D')
elif field[x][y-1] == '.':
    field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y-1
    res += 'L'
    #print('L')
elif field[x][y+1] == '.':
    field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y+1
    res += 'R'
    #print('R')

```

```

else:
    field[x][y] = '#'
    #res = res[:-1]

    if field[x-1][y] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x-1
        y = y
        res += 'U'
        #print('U')
    elif field[x+1][y] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x+1
        y = y
        res += 'D'
        #print('D')
    elif field[x][y-1] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x
        y = y-1
        res += 'D'
        #print('L')
    elif field[x][y+1] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x
        y = y+1
        res += 'R'
        #print('R')

```

```

#print(x, y)

```

```

#print('end')
print(res)
#for i in range(h+2):
    #print(field[i])

```


--- Task B ---

--- Solution 48-000021-34190-robo16_015-robo16_015-20160416172311.py ---

```
h, w, t = map(int, input().split())
board = []
for i in range(w + 2):
    board.append('#')

sx = 0
sy = 0
ex = 0
ey = 0
zerx = []
zery = []
field = [board]
for i in range(h):
    iline = list(input())
    line = ['#']
    for k in range(w):
        line.append(iline[k])
        if iline[k] == '@':
            sx = i + 1
            sy = k + 1
        if iline[k] == 'E':
            ex = i + 1
            ey = k + 1
        if iline[k] == '0':
            zerox.append(i + 1)
            zery.append(k + 1)
    line.append('#')
    field.append(line)
field.append(board)
#print(field)
#print(sx, sy)
#print('end', ex, ey)

x = sx
y = sy
oldx = 0
oldy = 0
res = ""
num = 0
for i in range(100000):
    if num % t == 0:
        for j in range(len(zerx)):
            field[zerx[j]][zery[j]] = '1'
    else:
        for j in range(len(zerx)):
            field[zerx[j]][zery[j]] = '0'

    if field[x-1][y] == 'E':
        if field[x][y] != '0' and field[x][y] != '1':
            field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x-1
        y = y
        res += 'U'
        num += 1
    #print('U')
```

```

    break
elif field[x+1][y] == 'E':
    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x+1
    y = y
    res += 'D'
    num += 1
    #print('D')
    break
elif field[x][y-1] == 'E':
    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y-1
    res += 'L'
    num += 1
    #print('L')
    break
elif field[x][y+1] == 'E':
    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y+1
    res += 'R'
    num += 1
    #print('R')
    break

elif field[x-1][y] == '.' or field[x-1][y] == '1':
    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x-1
    y = y
    res += 'U'
    num += 1
    #print('U')
elif field[x+1][y] == '.' or field[x+1][y] == '1':
    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x+1
    y = y
    res += 'D'
    num += 1
    #print('D')
elif field[x][y-1] == '.' or field[x][y-1] == '1':
    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y-1
    res += 'L'
    num += 1
    #print('L')
elif field[x][y+1] == '.' or field[x][y+1] == '1':

```

```

    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y+1
    res += 'R'
    num += 1
    #print('R')

elif field[x-1][y] == '0':
    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y
    res += 'S' * (num%t)
    num += num%t
    #print('U')
elif field[x+1][y] == '0':
    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y
    res += 'S' * (num%t)
    num += num%t
    #print('D')
elif field[x][y-1] == '0':
    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y
    res += 'S' * (num%t)
    num += num%t
    #print('L')
elif field[x][y+1] == '0':
    if field[x][y] != '0' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y
    res += 'S' * (num%t)
    num += num%t
    #print('R')

else:
    field[x][y] = '#'
    #res = res[:-1]

    if field[x-1][y] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x-1
        y = y
        res += 'U'
        #print('U')

```

```

elif field[x+1][y] == 'A':
    #field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x+1
    y = y
    res += 'D'
    #print('D')
elif field[x][y-1] == 'A':
    #field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y-1
    res += 'D'
    #print('L')
elif field[x][y+1] == 'A':
    #field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y+1
    res += 'R'
    #print('R')

#print(x, y)
#print(res)

#print('end')
print(res)
#for i in range(h+2):
#    print(field[i])

--- Solution 48-000022-34190-robo16_015-robo16_015-20160416172452.py ---
h, w, t = map(int, input().split())
board = []
for i in range(w + 2):
    board.append('#')

sx = 0
sy = 0
ex = 0
ey = 0
zerx = []
zery = []
field = [board]
for i in range(h):
    iline = list(input())
    line = ['#']
    for k in range(w):
        line.append(iline[k])
        if iline[k] == '@':
            sx = i + 1
            sy = k + 1
        if iline[k] == 'E':
            ex = i + 1
            ey = k + 1
        if iline[k] == 'O':
            zerx.append(i + 1)
            zery.append(k + 1)
    line.append('#')
    field.append(line)
field.append(board)
#print(field)
#print(sx, sy)
#print('end', ex, ey)

```

```

x = sx
y = sy
oldx = 0
oldy = 0
res = ""
num = 0
for i in range(100000):
    if num%t == 0:
        for j in range(len(zerx)):
            field[zerx[j]][zery[j]] = '1'
    else:
        for j in range(len(zerx)):
            field[zerx[j]][zery[j]] = 'O'

    if field[x-1][y] == 'E':
        if field[x][y] != 'O' and field[x][y] != '1':
            field[x][y] = 'A'
            oldx = x
            oldy = y
            x = x-1
            y = y
            res += 'U'
            num += 1
            #print('U')
            break
    elif field[x+1][y] == 'E':
        if field[x][y] != 'O' and field[x][y] != '1':
            field[x][y] = 'A'
            oldx = x
            oldy = y
            x = x+1
            y = y
            res += 'D'
            num += 1
            #print('D')
            break
    elif field[x][y-1] == 'E':
        if field[x][y] != 'O' and field[x][y] != '1':
            field[x][y] = 'A'
            oldx = x
            oldy = y
            x = x
            y = y-1
            res += 'L'
            num += 1
            #print('L')
            break
    elif field[x][y+1] == 'E':
        if field[x][y] != 'O' and field[x][y] != '1':
            field[x][y] = 'A'
            oldx = x
            oldy = y
            x = x
            y = y+1
            res += 'R'
            num += 1
            #print('R')
            break

    elif field[x-1][y] == '.' or field[x-1][y] == '1':
        if field[x][y] != 'O' and field[x][y] != '1':
            field[x][y] = 'A'
            oldx = x
            oldy = y
            x = x-1

```

```

y = y
res += 'U'
num += 1
#print('U')
elif field[x+1][y] == '.' or field[x+1][y] == '1':
    if field[x][y] != 'O' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x+1
    y = y
    res += 'D'
    num += 1
    #print('D')
elif field[x][y-1] == '.' or field[x][y-1] == '1':
    if field[x][y] != 'O' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y-1
    res += 'L'
    num += 1
    #print('L')
elif field[x][y+1] == '.' or field[x][y+1] == '1':
    if field[x][y] != 'O' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y+1
    res += 'R'
    num += 1
    #print('R')

```

```

elif field[x-1][y] == 'O':
    if field[x][y] != 'O' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y
    res += 'S' * (num%t)
    num += num%t
    #print('U')
elif field[x+1][y] == 'O':
    if field[x][y] != 'O' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y
    res += 'S' * (num%t)
    num += num%t
    #print('D')
elif field[x][y-1] == 'O':
    if field[x][y] != 'O' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y
    res += 'S' * (num%t)
    num += num%t
    #print('L')

```

```

elif field[x][y+1] == 'O':
    if field[x][y] != 'O' and field[x][y] != '1':
        field[x][y] = 'A'
    oldx = x
    oldy = y
    x = x
    y = y
    res += 'S' * (num%t)
    num += num%t
    #print('R')

```

```

else:
    field[x][y] = '#'
    #res = res[:-1]

    if field[x-1][y] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x-1
        y = y
        res += 'U'
        #print('U')
    elif field[x+1][y] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x+1
        y = y
        res += 'D'
        #print('D')
    elif field[x][y-1] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x
        y = y-1
        res += 'D'
        #print('L')
    elif field[x][y+1] == 'A':
        #field[x][y] = 'A'
        oldx = x
        oldy = y
        x = x
        y = y+1
        res += 'R'
        #print('R')

```

```

#print(x, y)
#print(res)

```

```

#print('end')
print(res)
#for i in range(h+2):
#    print(field[i])

```

--- Task C ---

```

--- Solution 48-000025-34190-robo16_015-robo16_015-20160416172944.py ---
h, w, t, a = map(int, input().split())

for i in range(2 * a + 1):
    s = input()

```

```
print('UUSSRRDD')
```