Min direction moves

NESNWES

input → instructions given to us by our friend.

E

final position

E

E.g —SSSNEEEW

2E   2S

2E   2S

2.1 -2   2S

N
tivey

2

o

W

-ivx

-2

S

-ivey

final position
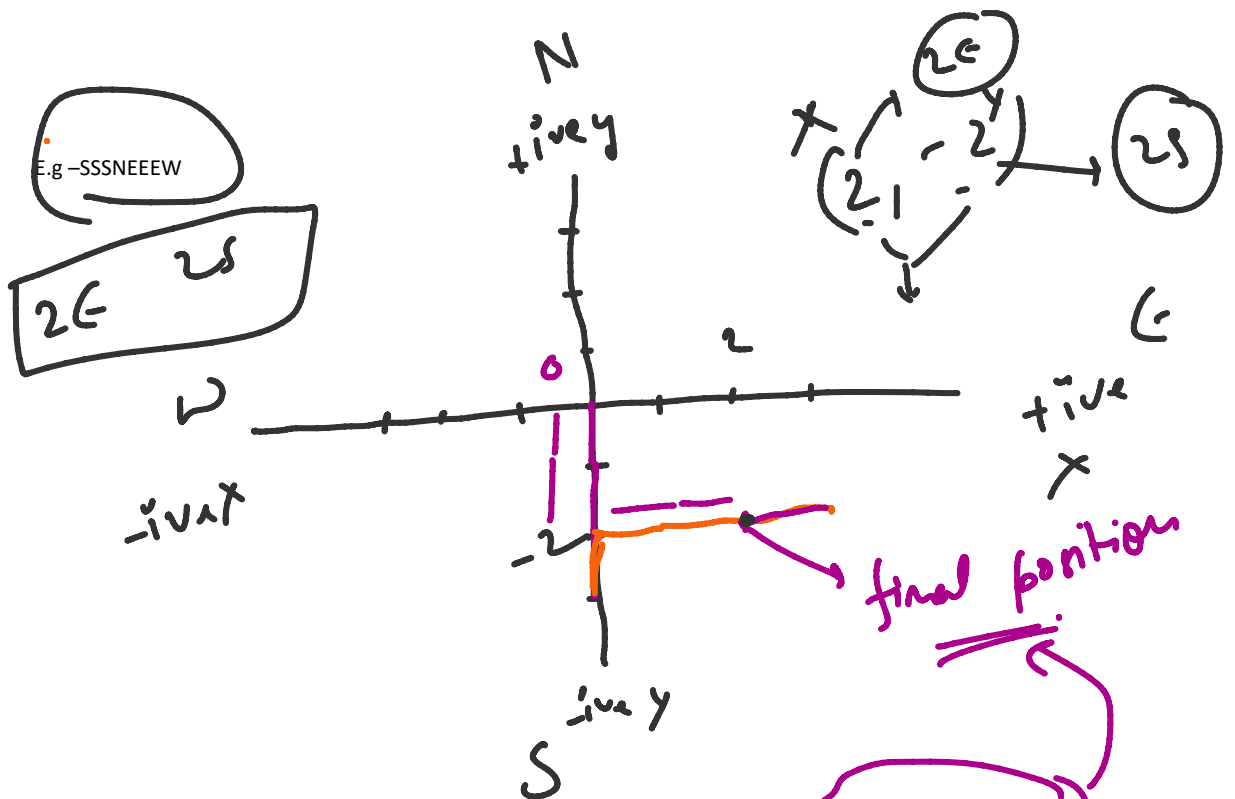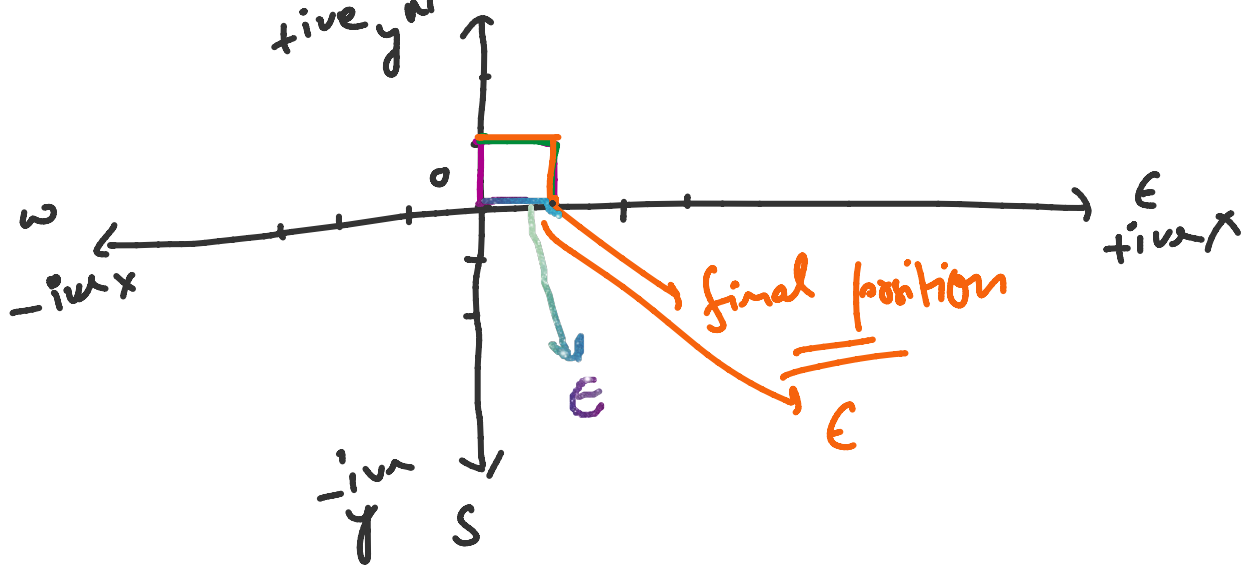
from origin →   SS E E

SE SE

EE SS

E owus first

EE SS

N +ive y

W   o   E
                                          +ive x
−ive x
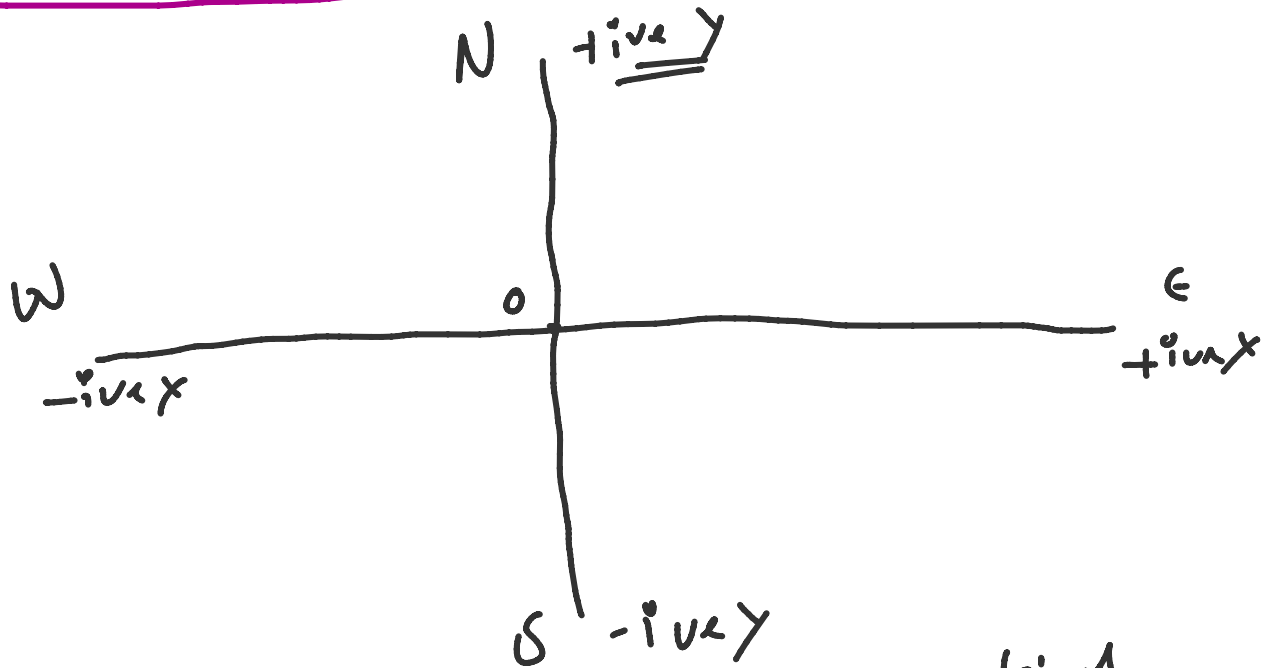
S −ive y

Input → long route. , we have to find
                    shortest route.

we can take two variables , x, y
so that we can find out coordinates of
our final pos^n in terms of x & y.

if input has N → the y axis
                 y++;

              _____ S → −ive y axis
                           y--;

              _____ E → +ive x axis
                           x++;

              _____ w → −ive x-axis
                           x--;

$n -$

$$x = 2, y = -2 \quad \rightarrow$$ EESS

$x <= 0$
$y >= 0$

$x = -2$
$y = 2$ III

NNWW
II

$n > 0$
$y >= 0$

(E)(N) $y >= 0$

$n = 3 \rightarrow$ (E)
$y = 3 \rightarrow$ (Q)

E(-NNN

$n = -3$
$y = -3$ III

$n <= 0$
$y <= 0$

SSSWW
III

$x = 2, y = -2$

GESS

(IV)

$n >= 0$
$y <= 0$

E (W)
S (S)

n y $0, 10$
$10, 0$ 1
EE $1, 10$
        $1, 100$
        $100, 1$