#include <stdio.h>

#include <ctype.h>

int mygetch() {

int ch;

while ((ch = getchar()) == '\n' || ch == '\r');

return ch;

}

int main() {

int state = 0;

int ch;

while ((ch = mygetch()) != EOF && ch != '\x1b') { /\* \x1b is the code for the End key \*/

switch (state) {

case 0:

if (isdigit(ch)) {

state = 1;

} else if (ch == '+' || ch == '-') {

state = 2;

} else if (ch == '.') {

state = 3;

} else {

state = 6;

}

break;

case 1:

if (isdigit(ch)) {

state = 1;

} else if (ch == '.') {

state = 4;

} else if (ch == 'e') {

state = 5;

} else {

state = 6;

}

break;

case 2:

if (isdigit(ch)) {

state = 1;

} else if (ch == '.') {

state = 3;

} else {

state = 6;

}

break;

case 3:

if (isdigit(ch)) {

state = 4;

} else {

state = 6;

}

break;

case 4:

if (isdigit(ch)) {

state = 4;

} else if (ch == 'e') {

state = 5;

} else {

state = 6;

}

break;

case 5:

if (isdigit(ch)) {

state = 7;

} else if (ch == '+' || ch == '-') {

state = 8;

} else {

state = 6;

}

break;

case 6:

printf("Invalid input\n");

return 0;

case 7:

if (isdigit(ch)) {

state = 7;

} else {

state = 9;

}

break;

case 8:

if (isdigit(ch)) {

state = 7;

} else {

state = 6;

}

break;

case 9:

if (!isspace(ch)) {

printf("Invalid input\n");

return 0;

}

break;

}

}

if (state == 4 || state == 7 || state == 9) {

printf("Valid input\n");

} else {

printf("Invalid input\n");

}

return 0;

}