#include <stdio.h>

#include <termios.h>

#include <unistd.h>

int mygetch()

{

struct termios oldt, newt;

int c;

tcgetattr(STDIN\_FILENO, &oldt);

newt = oldt;

newt.c\_lflag &= ~(ICANON | ECHO);

tcsetattr(STDIN\_FILENO, TCSANOW, &newt);

c = getchar();

tcsetattr(STDIN\_FILENO, TCSANOW, &oldt);

return c;

}

int main()

{

int state = 0; // состояние конечного автомата

char c; // вводимый символ

while ((c = mygetch()) != 4) { // считываем символы до нажатия End (код символа 4)

switch (state) {

case 0:

if (c >= '0' && c <= '9') {

state = 1;

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

state = 2;

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

state = 3;

} else {

printf("Error\n");

return 0;

}

break;

case 1:

if (c >= '0' && c <= '9') {

state = 1;

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

state = 4;

} else if (c == 'e' || c == 'E') {

state = 5;

} else {

printf("Valid\n");

return 0;

}

break;

case 2:

if (c >= '0' && c <= '9') {

state = 1;

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

state = 3;

} else {

printf("Error\n");

return 0;

}

break;

case 3:

if (c >= '0' && c <= '9') {

state = 4;

} else {

printf("Error\n");

return 0;

}

break;

case 4:

if (c >= '0' && c <= '9') {

state = 4;

} else if (c == 'e' || c == 'E') {

state = 5;

} else {

printf("Valid\n");

return 0;

}

break;

case 5:

if (c >= '0' && c <= '9') {

state = 7;

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

state = 6;

} else {

printf("Error\n");

return 0;

}

break;

case 6:

if (c >= '0' && c <= '9') {

state = 7;

} else {

printf("Error\n");

return 0;

}

break;

case 7:

if (c >= '0' && c <= '9') {

state = 7;

}

else {

printf("Valid\n");

return 0;

}

break;

}

}

return 0;

}