#include &lt;stdio.h&gt;

#include &lt;termios.h&gt;

#include &lt;unistd.h&gt;

int mygetch()

{

struct termios oldt, newt;

int c;

tcgetattr(STDIN\_FILENO, &amp;oldt);

newt = oldt;

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

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

c = getchar();

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

return c;

}

int main()

{

int state = 0; // состояние конечного автомата

char c; // вводимый символ

int flag = 0;

while ((c = mygetch()) != 4 &amp;&amp; c != &#39;\n&#39;) {

printf(&quot;%c&quot;, c);

switch (state) {

case 0:

if (c &gt;= &#39;0&#39; &amp;&amp; c &lt;= &#39;9&#39;) {

state = 1;

flag = 1;

} else if (c == &#39;+&#39; || c == &#39;-&#39;) {

state = 2;

} else if (c == &#39;.&#39;) {

state = 3;

} else {

printf(&quot;\nError\n&quot;);

return 0;

}

break;

case 1:

if (c &gt;= &#39;0&#39; &amp;&amp; c &lt;= &#39;9&#39;) {

state = 1;

} else if (c == &#39;.&#39;) {

state = 4;

} else if (c == &#39;e&#39; || c == &#39;E&#39;) {

state = 5;

} else {

printf(&quot;\nError\n&quot;);

return 0;

}

break;

case 2:

if (c &gt;= &#39;0&#39; &amp;&amp; c &lt;= &#39;9&#39;) {

state = 1;

} else if (c == &#39;.&#39;) {

state = 3;

} else {

printf(&quot;\nError\n&quot;);

return 0;

}

break;

case 3:

if (c &gt;= &#39;0&#39; &amp;&amp; c &lt;= &#39;9&#39;) {

state = 4;

} else {

printf(&quot;\nError\n&quot;);

return 0;

}

break;

case 4:

if (c &gt;= &#39;0&#39; &amp;&amp; c &lt;= &#39;9&#39;) {

state = 4;

} else if (c == &#39;e&#39; || c == &#39;E&#39;) {

state = 5;

} else {

printf(&quot;\nValid\n&quot;);

return 0;

}

break;

case 5:

if (c &gt;= &#39;0&#39; &amp;&amp; c &lt;= &#39;9&#39;) {

state = 7;

} else if (c == &#39;+&#39; || c == &#39;-&#39;) {

state = 6;

} else {

printf(&quot;\nError\n&quot;);

return 0;

}

break;

case 6:

if (c &gt;= &#39;0&#39; &amp;&amp; c &lt;= &#39;9&#39;) {

state = 7;

} else {

printf(&quot;\nError\n&quot;);

return 0;

}

break;

case 7:

if (c &gt;= &#39;0&#39; &amp;&amp; c &lt;= &#39;9&#39;) {

state = 7;

} else {

printf(&quot;\nValid\n&quot;);

return 0;

}

break;

default:

break;

}

}

if (flag == 1) {

printf(&quot;\nValid\n&quot;);

} else {

printf(&quot;\nError\n&quot;);

}

return 0;

}