Problem 1
Write a condition for the "if" statement below so that the code outputs "pass" when the input x is in the set of points defined by the following numberline, and "fail" otherwise.

```
var x = Number(prompt("Enter a number"));
if (x > 5)
{
  alert("pass");
}
else
{
  alert("fail");
}
```

Problem 2
Write a condition for the "if" statement below so that the code outputs "pass" when the input x is in the set of points defined by the following numberline, and "fail" otherwise.

```
var x = Number(prompt("Enter a number"));
if (x > 5)
{
  alert("pass");
}
else
{
  alert("fail");
}
```

3. Consider the following code.
```
var a = prompt("enter a");
if (a > 5)
{
  if (a < 10)
  {
    alert('dog');
  }
  else
  {
    alert('cat');
  }
}
else
{
  alert('cat');
}
```

a. What is output when the user enters:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. 7</td>
<td>3/0/0/0</td>
</tr>
<tr>
<td>ii. 14</td>
<td>3/0/0/0</td>
</tr>
<tr>
<td>iii. -7</td>
<td>3/0/0/0</td>
</tr>
<tr>
<td>iv. 5</td>
<td>3/0/0/0</td>
</tr>
<tr>
<td>v. 10</td>
<td>3/0/0/0</td>
</tr>
</tbody>
</table>

b. The program outputs dog if (circle one)
```
a > 5 || a < 10
a > 5 && a < 10
```
4. The link below pulls up a webpage that acts like a basic ATM. There is a simple Javascript program that carries out an ATM transaction when the user clicks the "make transaction" button, allowing you (the customer) to withdraw money from your bank account. The Javascript code is displayed on the webpage for your convenience. Find some input that breaks this program! I.e. that makes it behave incorrectly. http://rona.cs.usna.edu/~si110/lec/l07/hw/bank.html

a. What input did you enter to break the program?

b. What incorrect program behavior resulted from that input?

c. Show how to change the code to fix this problem?

You can test ideas with: http://rona.cs.usna.edu/~si110/lec/l07/hw/bankHW.html

```javascript
// Get input from user
var input = prompt("Your balance is $" + balance + ". How much would you like to withdraw?");
var request = Number(input);
var withdrawn = 0;

// Only make the withdrawl if user inputs a valid number and
// the account has sufficient funds!
// NOTE: isNaN(x) returns true if x is NaN, i.e. "Not a Number".
if (!isNaN(request))
{
    if (request > balance)
    {
        alert("Insufficient funds!");
    }
    else
    {
        balance = balance - request;
        withdrawn = request;
    }
}

// Print receipt
alert("Receipt: $" + withdrawn + " withdrawn, balance is $" + balance);
```