# Section 2: Conditionals

1. Write a program to input two numbers and decide if the difference between them is more than 10.

var n1=Number(prompt("number 1:")), n2=Number(prompt("number 2"));

if(n2-n1>10)

{

alert("difference is > 10");

}

else

{

alert("difference is <= 10");

}

2. Write a program to ask a quiz question (e.g. What is the capital city of France?), take the answer from the user and then check whether it is correct and give an appropriate response.

var answer=prompt("Is 小山 a valid Javascript variable name? Answer Yes or No:")

if(answer=="Yes")

{

alert("Correct!" 小山 is a valid Javascript variable name!);

}

else

{

alert("Wrong! 小山 is a valid Javascript variable name!");

}

## Exercises 2.4

4. Write a program to accept 3 percentage marks from a student and report "fail" if any of the marks are below 40%, otherwise report "pass" together with the average of the marks.

var p1=Number(prompt("percentage 1:")),p2=Number(prompt("percentage 2:")),p3=Number(prompt("percentage 3:"));

var status="pass";

if(p1<40)status="fail";

if(p2<40)status="fail";

if(p3<40)status="fail";

if(status=="pass")

{

var average=(p1+p2+p3)/3;

alert("You have passed with an average of "+average+"%");

}

else

{

alert("Sorry but you have failed");

}

## Exercises 2.5

3. Try writing a computer fault diagnostic tester along these lines

1. Anything on screen?
2. no - power trouble
3. yes - cursor moves with mouse?
   1. no - try reboot
   2. yes - any disc noise or any activity on screen?
      1. no - force quit current application
      2. yes - sorry run out of ideas.

alert("Answer y or n to following questions!");

var answer=prompt("Anything on screen?");

if(answer=="y")

{

answer=prompt("cursor moves with mouse?");

if(answer=="y")

{

answer=prompt("any disc noise or any activity on screen?");

if(answer=="y")

{

alert("sorry run out of ideas!")

}

else

{

alert("force quit current application!");

}

}

else

{

alert("try reboot");

}

}

else

{

alert("Power troubles!")

}

## Exercises 2.6

4. Write a program to input two strings (s1, s2) and output "found" if s2 is a substring of s1 and "not found" otherwise.

var s1=prompt("Enter String 1:"), s2=prompt("Enter String 2:");

if(s1.indexOf(s2)<0)

{

alert(s2+" not found in "+s1);

}

else

{

alert(s2+" found in "+s1);

}

6. The first 10 characters of a string are supposed to be "<!DOCTYPE ". Write a program to check that the string is acceptable. [Note: the letters can be in upper or lower case.]

//Note: There is a space character after <!DOCTYPE

var s=prompt("Enter String:").toUpperCase();

if(s.substr(0,10)=="<!DOCTYPE ")

{

alert("String is acceptable");

}

else

{

alert("String is not acceptable");

}

7. Starting with a string s, generate a string s2 which is similar to s but has the first and last characters swapped

// I am assuming length of input string is ≥ 2 characters

var s=prompt("Enter string:");

var s2=s.charAt(s.length-1)+s.substring(1,s.length-1)+s.charAt(0);

alert("Original string="+s+" New string="+s2);

8. Write a program to input a string and output the first character position that is a vowel.

var s=prompt("Enter string:");

var a=s.indexOf("a");

var o=s.indexOf("o");

var e=s.indexOf("e");

var i=s.indexOf("i");

var u=s.indexOf("u");

if(a+o+e+i+u==-5)

{

alert("string "+s+" does not contain a vowel");

}

else

{

if(a<0)a=s.length;

if(o<0)o=s.length;

if(e<0)e=s.length;

if(i<0)i=s.length;

if(u<0)u=s.length;

alert("The first vowel in string "+s+" is at position "+Math.min(a,o,e,i,u));

}

## Assignments A2

1. Write a program to inspect the string value of the variable Input and report the result to the variable Output. The Input is supposed to contain a single balanced pair of brackets i.e. the string is of the form "...(...)...". The variable Output should be assigned the contents of the bracketed part of a string or "bad string" if there is some problem with the brackets. For example

* abc(pqrs)yz gives pqrs, but
* abcpqrsyz
* abc(pqrsyz
* abcpqrs)yz
* abc)pqrs(yz
* abc(pq(rs)yz
* abs(pq)rs)yz
* abc(p(qr)s)yz
* abc(p)qr(s)yz all give the result: bad string

var Input=prompt("Enter string:");

var ob1=Input.indexOf("("), ob2=Input.lastIndexOf("(");

var cb1=Input.indexOf(")"), cb2=Input.lastIndexOf(")");

var Output;

if(ob1<0)Output="bad string"; // no (

if(cb1<0)Output="bad string"; // no )

if(ob2!=ob1)Output="bad string"; // one more (

if(cb2!=cb1)Output="bad string"; // one more )

if(ob1>cb1)Output="bad string"; // e.g. )... (

if(Output!="bad string")Output=Input.substring(ob1+1,cb1);

alert("Output="+Output);