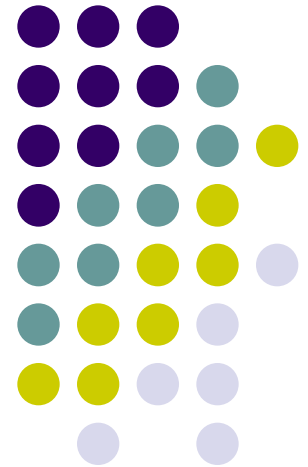


# Loops



# The do-while Repetition Structure



```
do
{
    statement(s)
} while ( condition );
```

- The body of a **do-while** is ALWAYS executed at least once. Is this true of a **while** loop? What about a **for** loop?

# Example



```
do
{
    num = prompt("Enter a positive number: ");
    num = parseInt(num);
    if (num <= 0)
    {
        alert("That is not positive. Try again.");
    }
}while (num <= 0);
```

# An Equivalent while Loop



```
num = prompt("Enter a positive number: ");
num = parseInt(num);
while ( num <= 0 )
{
    alert("That is not positive. Try again.");
    num = prompt("Enter a positive number: ");
    num = parseInt(num);
}
```

- Notice that using a while loop in this case requires a priming read.

# An Equivalent for Loop



```
num = prompt("Enter a positive number: ");
num = parseInt(num);
for ( ; num <= 0; )
{
    alert("That is not positive. Try again.");
    num = prompt("Enter a positive number: ");
    num = parseInt(num);
}
```

- A for loop is a very awkward choice here because the loop is event-controlled.

# So, Which Type of Loop Should I Use?



- Use a **for** loop for counter-controlled repetition.
- Use a **while** or **do-while** loop for event-controlled repetition.
  - Use a **do-while** loop when the loop must execute at least one time.
  - Use a **while** loop when it is possible that the loop may never execute.