this time we wil cover two more control statements similar to the **while____do** and the **if, then, else**. They are the **for_____do** and the **case_____of** statements.

The **for___do** statement is very similar to the **while____do** statement. Remember that the **while____ do** statement dealt with an unequality, that is, one value was identified as either greater than or less than the other and as long as (while) that condition remained certain things happened. **For___do** is the same thing except it is for an equality...that is, it will set things in motion until the two variables are equal (it uses a built in counter). Here is an example.

_____

```
program wizardsage;                                  {program name}
uses memtypes,quickdraw,osintf,fixmath;              {units used}
var
x:integer;                                           {defines variable type}
guess:integer;                                       {defines variable type}
age:integer;                                         {defines variable type}

begin                                                {begins program}
writeln('The wizard is reborn');                     {written by the program}
writeln('Guess his age in ten tries and win a boon');
writeln('Fail to guess his age;Beware of things that go bump in the night');
writeln ('What is your guess? (hint: he was born after 1917)');

for x:= 1 to 10 do                                   {gives a condition to be met}
begin                                                {begins the conditions loop}
age:=(random mod 35 +35);                            {generates a random number,1-70}
write(x:2);                                          {writes the guess number}
write(' ) ');                                        {puts a parenthesis after it}
readln(guess);                                       {reads in the guessed age}
if guess = age then                                  {wht to do if the guess is right}
writeln ('Your wish is granted! Pity that you didn''t ask for something?');
end                                                  {end of loop, this happens 10 times}

end.                                                 {end of program}
```

_____

This one works, but there is still a flaw in it. Can you tell what the flaw of the logic is? If not, don't worry i will figure out how to solve it, but do try to figure out what the flaw is. Did you wonder about the written line telling the guesser that he/she was right and why didn't he/she ask for something? (*snicker*) I couldn't resist that. By the way that is not the flaw. The resulting program when run is shown after 9 guesses. What happens if the guesser keys in an alpha character? Did you wonder about the random number mod i used (random mod 35 +35)? This actually generates a random number from 1 to 35 and then adds 35 to it. I did it this way because ofthe way Turbo pascal generates random numbers....it gives me negative numbers too! random mod 35 generates a random number from -35 to +35 so by adding 35 to that number i get a positive number from 1-70. (Here is a hint.....................*kabbboooooommmmm*! That is still not the unsolved flaw.

```
╔══════════════════ wizardsage ══════════════╗
The wizard is reborn
Guess his age in ten tries and win a boon
Fail to guess his age;Beware of things that go bump in the night
What is your guess? (hint: he was born after 1917)
  1 ) 23
  2 ) 34
  3 ) 45
  4 ) 56
  5 ) 67
  6 ) 12
  7 ) 21
  8 ) 32
  9 ) 43
 10 )
```
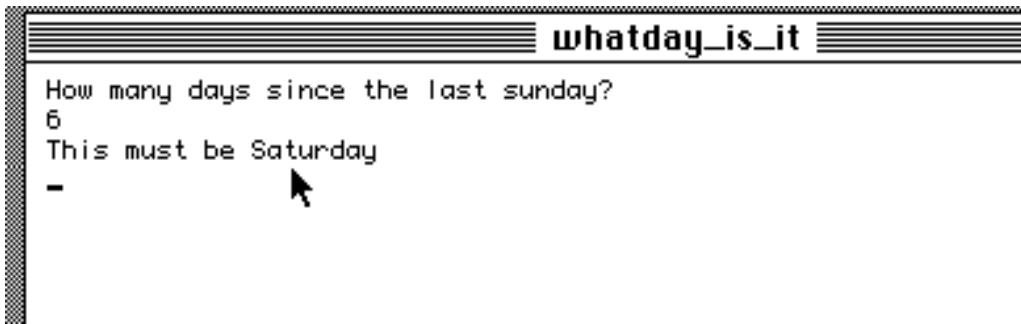
OK, on to the case____of statement. this one is better illustrated than explained.

_____

```
program whatday_is_it;                              {this program illustrates the 'case'  statement}

var
numdays:integer;                                    {identifies and defines variables}

begin                                               {begins program}
writeln ('How many days since the last sunday?');   {program question}
readln(numdays);                                    {user answer}
case numdays of                                     {case_____of statement}
                                                    {these statements replace if,then,else      when
several linear sequential items                     can be used}

0: writeln ('This must be Sunday');                 {responses based on answer from user}
1: writeln ('This must be Monday ');
2: writeln ('This must be Tuesday');
3: writeln ('This must be Wednesday');
4: writeln ('This must be Thursday');
5: writeln ('This must be Friday');
6: writeln ('This must be Saturday');
7: writeln ('This must be Sunday');
end;                                                {end of case___of statement}
readln                                              {this provides a chance to see the  answer before
the program shuts down}
```

_____

end.   {end of prgram}
_____

The initial number is the number identified by the user and is followed by the results that will be displayed for that value. It looks like this.

```
≣ whatday_is_it ≣
How many days since the last sunday?
6
This must be Saturday
-
```

Play with this one. It can save you a lot of if,then else conditions and typing. That's it for now. Next lesson is about one final fundamental control statement and then a recap of the commands covered so far. After that its on the bigger and better things so get out your crayons. At this rate you will be ready to work for Apple Inc. in no time.