program basics;

!just does simple arithmetic

begin

 writeln(2+3+4);

 writeln(5%2);

 writeln(2\*3 + 4\*5);

 writeln(9+2\*7-3);

end.

-------------------------------------------------------------------------------------------------------

 program basics1;

 ! tests variables and arithmetic

 var a,b,c, d,e:integer;

 begin

 a:= 5;

 b:= 6;

 c:= 7;

 d:=8;

 e:= 9;

 writeln(a+b+c);

 writeln(d%a);

 writeln(a\*b + c\*d);

 writeln(e+2\*c-3);

end.

 -------------------------------------------------------------------------------------------------------

program swap;

 var a,b, temp: integer;

 begin

 write('Enter a: ');

 read(a);

 write('Enter b: ');

 read(b);

 temp := a;

 a:= b;

 b:= temp;

 write('a is now '); writeln(a);

 write('b is now '); writeln(b);

 end.

-------------------------------------------------------------------------------------------------------

 program add; ! adds n numbers

 var n, sum :integer;

 begin

 sum := 0;

 writeln('Enter numbers End with 999’);

 read(n);

 while n <> 999 do

 begin

 sum := sum + n;

 write('n: ');

 read(n);

 end;

 write ('The sum is '); write(sum);

 end.

-------------------------------------------------------------------------------------------------------

program quessNumber; ! loops and if-else

 var a,b,num, correct, guess, count: integer;

 begin

 write('Enter two four digit numbers ');

 read(a,b);

 num := (a\*b/73)%100+1;

 writeln ('OK I am thinking of a number between 1 and 100');

 correct := 0;

 count := 0;

 while (correct <> 1) do

 begin

 count := count + 1;

 write('Guess: ');

 read(guess);

 if (guess > num) then

 writeln('Too high')

 else if (guess < num) then

 writeln('Too low')

 else

 begin

 writeln('You got it ');

 correct := 1;

 end;

 end;

 write('Number of guesses: '); writeln(count);

 end.

-------------------------------------------------------------------------------------------------------

program nothing;

 var x, y :integer;

 procedure W(x,y:integer);

 var a,b,c: integer;

 begin

 if (x = 1) then

 c := x + y

 else

 begin

 a := 5;

 b := 6;

 c := a\*b+x\*y;

 end;

 write(c);

 end;

 begin

 write('Enter two integers ');

 read(x); read (y);

 call W(x,y);

 end.

-------------------------------------------------------------------------------------------------------

program ConvertToDecimal;

 var num:integer;

 procedure binaryToDecimal( num : integer);

 var decimal, power, temp, digit: integer;

 begin

 decimal:= 0;

 power:= 1;

 temp := num;

 while (temp > 0) do

 begin

 digit := temp % 10;

 temp := temp / 10;

 decimal := decimal + digit\*power;

 power := power \* 2;

 end;

 write('Decimal is '); write(lndecimal);

 end;

 begin

 write('Enter a binary number ');

 read(num);

 call binaryToDecimal(num);

 end.

-------------------------------------------------------------------------------------------------------

program swap1; ! swaps using a procedure

 var a,b: integer;

 procedure swap(a,b:integer);

 var temp:integer;

 begin

 temp := a;

 a:= b;

 b:= temp;

 write('a is now '); writeln(a);

 write('b is now '); writeln(b);

 end;

 begin

 write('Enter a: ');

 read(a);

 write('Enter b: ');

 read(b);

 call swap(a,b);

 end.

-------------------------------------------------------------------------------------------------------

program fibN; ! calculates the nth Fibonacci number

 var n:integer;

 procedure fibonaccii(n: integer);

 var fib,previous, i, temp : integer;

 begin

 fib := 1;

 previous := 1;

 i := 2;

 while i < n do

 begin

 temp := fib;

 fib := fib + previous;

 previous := temp;

 i := i + 1;

 end;

 write(' Fibonacci('); write(n); write(') is ');

 writeln (fib);

 end;

begin

 write('Enter n: ');

 read(n);

 call fibonaccii( n);

end.

-------------------------------------------------------------------------------------------------------

program vertical; ! writes an integer vertically (recursive)

 var n: integer;

 procedure writeVertical(n:integer);

 begin

 if n < 10 then

 begin

 writeln (n);

 end

 else

 begin

 call writeVertical(n/10);

 writeln(n%10);

 end;

 end;

 begin

 write('Enter a positive integer ');

 read (n);

 call writeVertical(n);

 end.

-------------------------------------------------------------------------------------------------------

program Binary; ! Recursive , give binary value of decimal

 var x: integer;

 procedure convert( x: integer);

 var a: integer;

 begin

 if x <> 0 then

 begin

 a := x%2;

 x := x/2;

 call convert(x);

 write(a);

 end;

 end;

 begin

 write('Enter a decimal number ');

 read(x);

 call convert(x);

 end.

-------------------------------------------------------------------------------------------------------

program Hanoi;

 var n, start, goal, extra:integer;

 procedure move( n, start, goal, extra : integer);

 var w:integer;

 begin

 if n >0 then

 begin

 call move(n-1, start, extra, goal);

 write(start); write( ' --> ' ); write(goal); writeln(' ');

 call move(n-1, extra, goal, start);

 end;

 end;

 begin

 write('Enter number of disks' );

 read (n);

 write('Enter start' );

 read(start) ;

 write('Enter goal' );

 read(goal);

 write('Enter the extra' );

 read(extra);

 call move(n, start, goal, extra);

 end.