

## 2.4. Cyclical processes. Organization cycles with operators and DO IF

Cyclic processes provide operators with the following controls: Operator unconditional transfer GOTO; Management conditional statements IF (arithmetic, logical, block); operators loop DO.

Block operators that are repeated many times in the cycle, called cycle body.

There are the following types of cycles:

- A series of prerequisite;
- A series of postumovoyu - check necessary following passage body cycle is carried out at the end of the passage;
- Life cycle - the need to test the loop program is not provided, the number of passes limited resources of a PC.

Cycle operator unconditional transfer GOTO. The transmission control operator GOTO «Up» forms the life cycle. An example for this case above.

End of the program life cycle may manually when the user clicks [CTRL + C] - for console applications or use Task Manager operating system [ALT + CTRL + DEL] - to run in windowed mode. The program also stops Overflow word length for variables that are calculated in the cycle.

The cycle operator with the precondition IF - test necessary next raid carried out at the beginning of each cycle passage through the body cycle.

Example. The cycle of prerequisite.

X = .0

DX = .001

20 IF (X.GT. .5) GOTO 30

A = SIN (X)

B = COS (X)

C = A \*\* 2 + B \*\* 2

WRITE (\*, \*) X, A, B, C

X = X + DX

GOTO 20

30 CONTINUE

The cycle of the operator IF postumovoyu - the need to pass the test cycle body is held at the end of the passage through the body cycle.

Example. The cycle of postumovoyu.

X = .0

DX = .001

10 CONTINUE

A = SIN (X)

B = COS (X)

C = A \*\* 2 + B \*\* 2

WRITE (\*, \*) X, A, B, C

X = X + DX

IF (X .LT. .5) GOTO 10

Each case is considered characteristics (disadvantages). To implement the algorithm cycle with the precondition is used relatively more operators, and the application postumovy in any case you need it or not, the loop is executed at least once.