**MODUL VII**

**PERULANGAN**

**DENGAN FOR ... TO ... DO ... BERGANDA**

* + 1. **TUJUAN**

1. Memahami prroses perulangan berganda dengan jumlah yang diketahui
2. Mampu mengaplikasikan proses perulangan berganda dalam Pascal
3. Mampu mengimplementasikan kasus ke dalam bentuk program Pascal
   * 1. **DASAR TEORI**

Bentuk umum dari FOR ... TO ... DO ... berganda adalah sebagai berikut :

FOR var\_penghitung1 := nilai\_awal1 TO nilai\_akhir2 DO

FOR var\_penghitung2 := nilai\_awal2 TO nilai\_ahir2 DO

BEGIN

Statement1;

Statement2

...

END;

Pada perulangan berganda, dibutuhkan minimal 2 buah variabel penghitung, tergantung jumlah FOR ... TO ... DO ... dalam program tersebut. Nilai awal dan nilai akhir pada masing-masing perulangan bisa sama.

Kasus yang biasa diselesaikan dengan perulangan berganda adalah persoalan matriks.

* + 1. **LATIHAN SOAL**

1. **Nomor Program 0701**
   1. Tulislah program berikut dan amatilah outputnya!

PROGRAM deret\_bintang;

USES CRT;

VAR karakter : char;

baris, i, j, kolom : integer;

BEGIN

CLRSCR;

FOR i := 1 TO 5 DO

BEGIN

FOR j := 1 TO 20 DO

BEGIN

TEXTCOLOR(i);

WRITE(‘\*’);

END;

WRITELN;

END;

READLN;

END.

* 1. Ubahlah nilai variabel penghitung i, mulai 1 s.d. 20. Kemudian ubah juga nilai variabel penghitung j, mulai 1 s.d. 5. Bagaimana outputnya, apa kesimpulan anda?

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1. **Nomor Program 0702**

Buatlah program untuk menampilkan output seperti berikut :

1234567890

1234567890

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1. **Nomor Program 0703**

Buatlah program untuk menampilkan output seperti berikut :

1111111111

1111111111

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1. **Nomor Program 0704**

Buatlah program untuk menampilkan output seperti berikut :

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1. **Nomor Program 0705**

Buatlah program untuk menampilkan output seperti berikut :

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1 2

1 2 3

1 2 3 4

1 2 3 4 5

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1. **nomor Program 0706**

Buatlah program untuk menampilkan output seperti berikut :

1 = 1

1 2 = 3

1 2 3 = 6

1 2 3 4 = 10

1 2 3 4 5 = 15

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