**LAPORAN PRAKTIKUM**

**PEMROGRAMAN TERSTRUKTUR**

**MODUL 10 WHILE…DO**

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**Program Studi Teknik Informatika Jurusan Teknik Elektro**

**Politeknik Negeri Pontianak**

**Pontianak**

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**MODUL X**

**PERULANGAN**

**DENGAN WHILE ... DO ...**

* 1. **TUJUAN**

1. Memahami statement perulangan dengan while ... do ... dalam Pascal
2. Memahami proses perulangan dengan jumlah yang tidak diketahui
3. Mampu mengaplikasikan proses perulangan dalam program Pascal
   1. **DASAR TEORI**

Pada modul sebelumnya, anda telah mempelajari perulangan dengan menggunakan FOR ... TO ... DO ... Perulangan menggunakan FOR ... TO ... DO ... cocok untuk digunakan jika jumlah perulangannya telah diketahui. Banyak masalah yang terjadi jika jumlah perulangannya tidak diketahui secara pasti sebelum blok perulangan itu dijalankan.

Perulangan dengan jumlah yang tidak diketahui dapat menggunakan statement WHILE ... DO ... Bentuk umum dari WHILE ... DO ... adalah :

WHILE (*ekspresi logika*) DO

BEGIN

Statement1;

blok perulangan

Statement2;

...

END;

Mula-mula, komputer akan mengamati nilai logika dari (*ekspresi logika*). Jika bernilai benar atau TRUE, maka blok perulangan akan dikerjakan. Setelah blok perulangan dikerjakan, komputer akan mengamati kembali ekspresi logika pada (*ekspresi logika*). Jika bernilai benar, maka blok perulangan dikerjakan kembali. Kemudian mengamati kembali nilai (*ekspresi logika*). Jika (*ekspresi logika*) bernilai salah atau FALSE, maka blok perulangan tidak akan dikerjakan lagi.

* 1. **LATIHAN SOAL**

1. **Nomor Program 1001**
   1. Tulislah program berikut dan amatilah outputnya!

PROGRAM while\_do;

USES CRT;

VAR i : integer;

BEGIN

CLRSCR;

i := 1;

WHILE (i <= 10) DO

BEGIN

WRITELN(i:10);

i := i + 1;

END;

READLN;

END.

* 1. Jika statement i := 1; diganti menjadi i := 30; bagaiman outputnya? Mengapa ?

Jawab : perulangan tidak akan berjalan karena di logika nya perulangan akan terjadi jika i kurang dari atau sama dengan 10

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* 1. Jika statement i := i + 1; diganti menjadi i := i \* 5; bagaimana outputnya?



Jawab : karena nilai i dikali 5 dan nilai i di ekspresi logika adalah 10 maka hanya akan mendapat 2 output karena i pertama 1 kali 5 = 5 dan kedua 5 kali 5 = 25

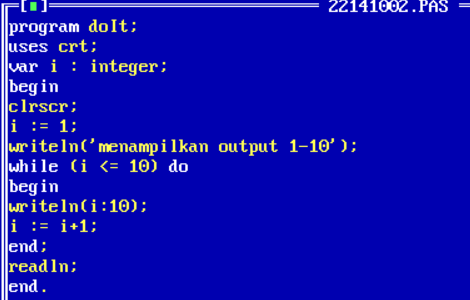
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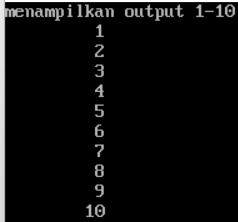
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1. **Nomor Program 1002**

Buatlah program untuk menampilkan angka dari 1 s.d. 10 dengan mengguankan WHILE ... DO ...





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1. **Nomor Program 1003**
   1. Tulislah program berikut dan amati outputnya!

PROGRAM balik\_nama;

USES CRT;

TYPE

larik = array[1..30] of char;

VAR

nama : larik;

c : char;

index, jml\_huruf, i : integer;

BEGIN

CLRSCR;

index := 1;

c := ‘a’;

WRITELN(‘Tulis nama anda. Akhiri dengan spasi. Lalu tekan enter’);

WHILE (c <> ‘ ‘) DO

BEGIN

c := readkey; WRITE(‘x’);

nama[index] := c;

index := index + 1;

END;

jml\_huruf := index;

WRITELN;

WRITELN(‘Ini lho nama kamu...’);

i := 1;

WHILE (i <= jml\_huruf) DO

BEGIN

WRITE(nama[i]);

INC(i);

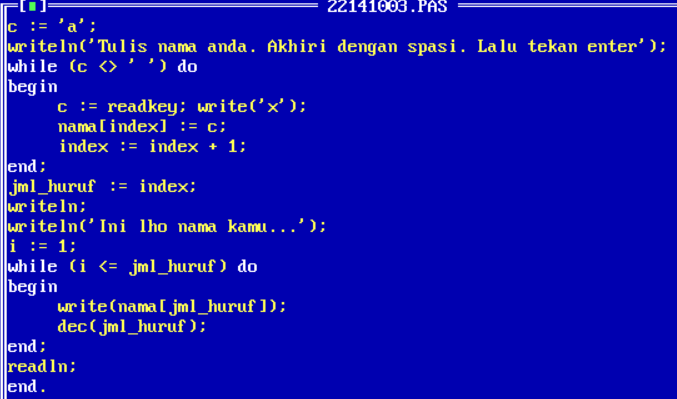
END;

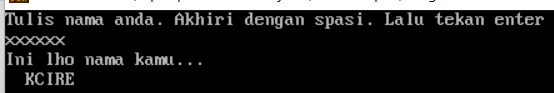
READLN;

END.

Perhatikan statement inc(i). Statement tersebut berupa sebuah prosedur, yaitu procedure inc(i) yang berguna untuk menambahkan nilai variabel sebesar 1, sehingga artinya sama dengan i := i + 1;

* 1. Modifikasilah program tersebut sehingga nama yang ditampilkan adalah nama secara terbalik.





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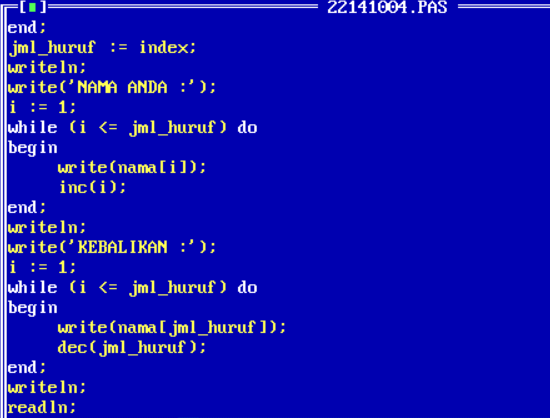
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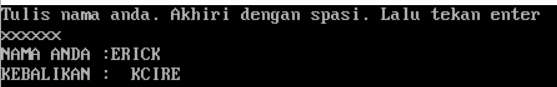
1. **Nomor Program 1004**

Buatlah program untuk meminta masukan berupa nama, kemudian tampilkan kebalikan dari input tersebut. Berikut ini contoh tampilannya :

Nama anda : MANDRA 🡨 MANDRA diinputkan user, lalu <ENTER>

Kebalikan : ARDNAM



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1. **Nomor Program 1005**

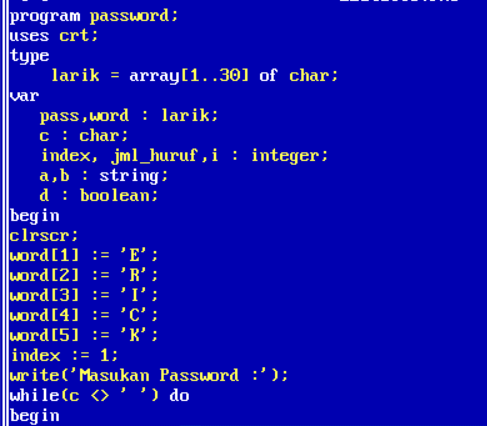
Buatlah program untuk meminta masukan kata password. Jika kata password yang diinputkan benar, maka tampilkan pesan benar. Jika kata password yang diinputkan salah, komputer akan meminta masukan sekali lagi. Maksimal masukkan adalah tiga kali. Tampilkan input dengan karakter ‘\*’. Berikut ini contoh output program :

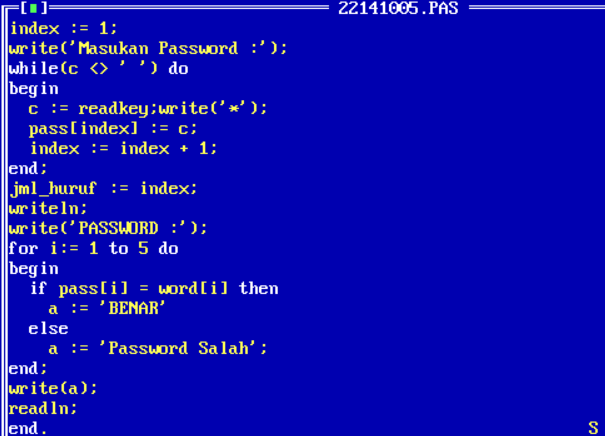
Masukkan password : \*\*\*\*\*

Salah. Ulangi sekali lagi!

Masukkan password : \*\*\*

Benar.



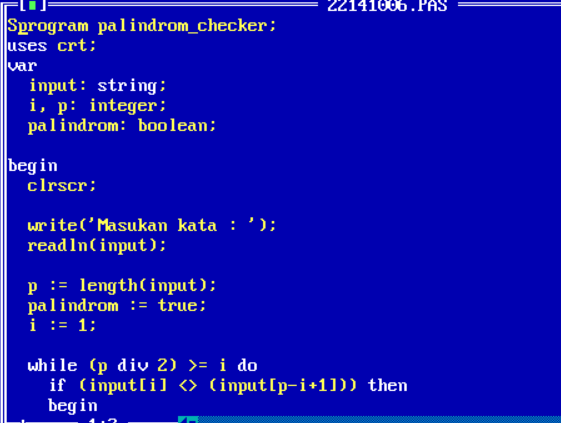


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1. **Nomor Program 1006**

Buatlah program untuk mengecek kata yang dimasukkan. Jika kata yang dimasukkan adalah PALINDROM, maka tampilkan pesan benar. Jika kata yang dimasukkan bukan PALINDROM, maka tampilkan pesan kesalahan. PALINDROM adalah kata/kalimat yang dibaca dari arah kiri maupun kanan bunyinya sama. Contoh : KATAK, MALAM, XXZXX, AMIKIMA, KASURRUSAK, dan seterusnya.



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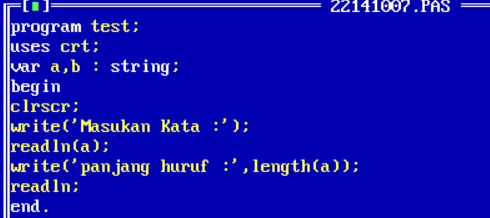
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1. **Nomor Program 1007**

Buatlah program yang akan meminta masukan berupa kalimat, kemudian tentukan berapa jumlah kata yang dimasukkan. Berikut ini contoh outputnya :

Masukkan kalimat : Aku suka kamu 🡨 diinputkan oleh user, lalu <ENTER>

Anda telah memasukkan 3 kata.

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