

Tugas Pointer

Kuliah Struktur Data

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Soal no 1.

```
struct Mahasiswa {
    char NPM[8] ;
    char nama[20];
    int nilai;
};
typedef Mahasiswa* PointerToMhs;    //pointer menunjuk address record Mahasiswa

main() {
    PointerToMhs p,q;                //p,q : pointer to record
    p=new Mahasiswa;                // alokasi melalui p
    cin>>p->NPM;
    cin>>p->nama;
    cin>>p->nilai;

    q=new Mahasiswa;                // alokasi melalui q
    cin>>q->NPM;
    cin>>q->nama;
    cin>>q->nilai;

    cout<<p->NPM<<p->nama<<p->nilai;
    cout<<q->NPM<<q->nama<<q->nilai;
}
```

- Salin dan buat program diatas (lengkapi tampilan untuk input dan output)
- Ubah berbentuk fungsi dan void (untuk input) serta void (untuk output).
Perhatikan passing by value atau by reference nya

Soal no 2

```
main() {
    int n = 1;
    int* p = &n;
    int* q;
    int* r;
    int* s;
    cout << " n = " << n << "      &n      = " << &n << endl ;
    cout << " p = " << p << "      *p      = " << *p << endl;
    cout << "&p = " << &p << "      &>(*p) = " << &>(*p) << endl;
    q = new int;                                // alokasi
    *q = 2;
    cout << " q = " << q << "      *q      = " << *q << endl;
    cout << " &q = " << &q << "      &>(*q) = " << &>(*q) << endl;
    // delete(q)                                // apa yg terjadi ??
    r = new int;
    *r = 3;
    cout << " r = " << r << "      *r      = " << *r << endl;
    cout << " &r = " << &r << "      &>(*r) = " << &>(*r) << endl;
    s=q;
    *s = 4;
    cout << " q = " << q << "      *q      = " << *q << endl;
    cout << " s = " << s << "      *s      = " << *s << endl;
    cout << " &q = " << &q << "      &s    = " << &s << endl;
}
```

Kerjakan soal diatas, buatlah gambaran keadaan memori (address dan content).
Beri penjelasan dari setiap perintah.