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#### Assignment – 4

##### 1) Piramida

```
#include<iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int row;

    // input jumlah baris
    cout << "Enter number of rows: "; cin >> row;

    // loop pola
    for(int i = row; i >= 1; i--) {
        // loop spasi sebelum piramida
        for(int j = i; j > 0; j--) {
            cout << " ";
        }

        // loop sisi kiri piramida
        for(int k = row + 1; k > i; --k) {
            cout << "*";
        }

        // loop sisi kanan piramida
        for(int k = row; k > i; --k) {
            cout << "*";
        }

        // baris baru per tingkat piramida
        cout << endl;
    }

    return 0;
}
```

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## 2) Tabel

```
#include<iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int grid;

    //input jumlah baris dan kolom
    cout << "Insert the maximum number to calculate the multiplication table: "; cin >> grid;
    cout << " ";

    // loop baris pertama
    for(int i = 0; i <= grid; i++) {
        cout << i;
        cout << " ";
    }
    cout << endl;

    // loop tabel
    for(int i = 0; i <= grid; i++) {
        // loop kolom pertama
        cout << i << " - ";
        // loop isi tabel perkalian
        for(int j = 0; j <= grid; j++) {
            cout << j * i << " ";
            if(j * i < 9) {
                cout << " ";
            }
            else if(j * i < 99) {
                cout << " ";
            }
            else if(j * i < 999) {
                cout << " ";
            }
        }
        // baris baru
        cout << endl;
    }
    return 0;
}
```

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### 3) Pola Genap

```
#include<iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int bil;

    // input bilangan
    cin >> bil;

    // output bilangan negatif
    if(bil < 0) {
        cout << "Please enter positive numbers" << endl;
    }
    // output bilangan ganjil
    else if(bil % 2 != 0) {
        bil -= 1;
        for(int i = bil; i > 0; i--) {
            // print nilai bilangan genap sebelumnya
            cout << bil << " ";
            bil -= 2;
            // break saat sampai 0
            if(bil < 0) {
                break;
            }
        }
    }
    // output bilangan genap
    else {
        for(int i = bil; i > 0; i--) {
            // print nilai bilangan genap sebelumnya
            cout << bil << " ";
            bil -= 2;
            // break saat sampai 0
            if(bil < 0) {
                break;
            }
        }
    }
    return 0;
}
```

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### 3) Pola Bintang

```
#include<iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int n, s, r;

    // input n bilangan dan perulangan tiap s bilangan
    cin >> n >> s;

    // simpan nilai perulangan
    r = s;

    // loop barisan
    for(int i = 1; i <= n; i++) {
        // ubah pola angka menjadi (*)
        if(i == s) {
            cout << "* ";
            s += r;
        }
        // barisan selain pola
        else cout << i << " ";
    }

    return 0;
}
```

Kelas : KOMA

### 1) Piramida

```

File Edit Selection View Run Terminal Help
1piramida.cpp x 2tabel.cpp 3genap.cpp 4pola.cpp
1 #include<iostream>
2
3 using namespace std;
4
5 int main() {
6     // deklarasi variabel
7     int row;
8
9     // input jumlah baris
10    cout << "Enter number of rows: "; cin >> row;
11
12    // loop pola
13    for(int i = row; i >= 1; i--) {
14        // loop spasi sebelum piramida
15        for(int j = i; j > 0; j--) {
16            cout << " ";
17        }
18
19        // loop sisi kiri piramida
20        for(int k = row + 1; k > i; --k) {
21            cout << "*";
22        }
23
24        // loop sisi kanan piramida
25        for(int k = row; k > i; --k) {
26            cout << "*";
27        }
28
29        // baris baru per tingkat piramida
30        cout << endl;
31
32
33    return 0;
34 }

```

```

PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4"; if
($?) { g++ 1piramida.cpp -o 1piramida }; if ($?) {
.\1piramida }
Enter number of rows: 3
*
***
*****
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4"; if
($?) { g++ 1piramida.cpp -o 1piramida }; if ($?) {
.\1piramida }
Enter number of rows: 5
*
***
*****
*****
*****
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4"; if
($?) { g++ 1piramida.cpp -o 1piramida }; if ($?) {
.\1piramida }
Enter number of rows: 12
*
***
*****
*****
*****
*****
*****
*****
*****
*****
*****
*****
*****
*****
*****
PS D:\CS21\Praktikum Pemrograman A\Assignment 4>

```

The image shows a C++ IDE with a file named `2tabel.cpp` open. The code is as follows:

```
#include<iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int grid;

    //input jumlah baris dan kolom
    cout << "Insert the maximum number to calculate the multiplication
table: "; cin >> grid;

    cout << " ";

    // loop baris pertama
    for(int i = 0; i <= grid; i++) {
        cout << i;
        cout << " ";
    }

    cout << endl;

    // loop tabel
    for(int i = 0; i <= grid; i++) {
        // loop kolom pertama
        cout << i << " - ";
        // loop isi tabel perkalian
        for(int j = 0; j <= grid; j++) {
            cout << j * i << " ";
            if(j * i < 9) {
                cout << " ";
            }
            else if(j * i < 99) {
                cout << " ";
            }
        }
    }
}
```

The output of the program is shown in the terminal window:

```
PS D:\CS21\Praikum Pemrograman A\Assignment 4> cd "d:\C
S21\Praikum Pemrograman A\Assignment 4"& if ($?) { g+
+ 2tabel.cpp -o 2tabel } ; if ($?) { .\2tabel }
Insert the maximum number to calculate the multiplication
table: 5
0 - 0 1 2 3 4 5
1 - 0 1 2 3 4 5
2 - 0 2 4 6 8 10
3 - 0 3 6 9 12 15
4 - 0 4 8 12 16 20
5 - 0 5 10 15 20 25

PS D:\CS21\Praikum Pemrograman A\Assignment 4> cd "d:\C
S21\Praikum Pemrograman A\Assignment 4"& if ($?) { g+
+ 2tabel.cpp -o 2tabel } ; if ($?) { .\2tabel }
Insert the maximum number to calculate the multiplication
table: 8
0 - 0 1 2 3 4 5 6 7 8
1 - 0 1 2 3 4 5 6 7 8
2 - 0 2 4 6 8 10 12 14 16
3 - 0 3 6 9 12 15 18 21 24
4 - 0 4 8 12 16 20 24 28 32
5 - 0 5 10 15 20 25 30 35 40
6 - 0 6 12 18 24 30 36 42 48
7 - 0 7 14 21 28 35 42 49 56
8 - 0 8 16 24 32 40 48 56 64

PS D:\CS21\Praikum Pemrograman A\Assignment 4> cd "d:\C
S21\Praikum Pemrograman A\Assignment 4"& if ($?) { g+
+ 2tabel.cpp -o 2tabel } ; if ($?) { .\2tabel }
Insert the maximum number to calculate the multiplication
table: 3
0 - 0 1 2 3
1 - 0 1 2 3
2 - 0 2 4 6
3 - 0 3 6 9

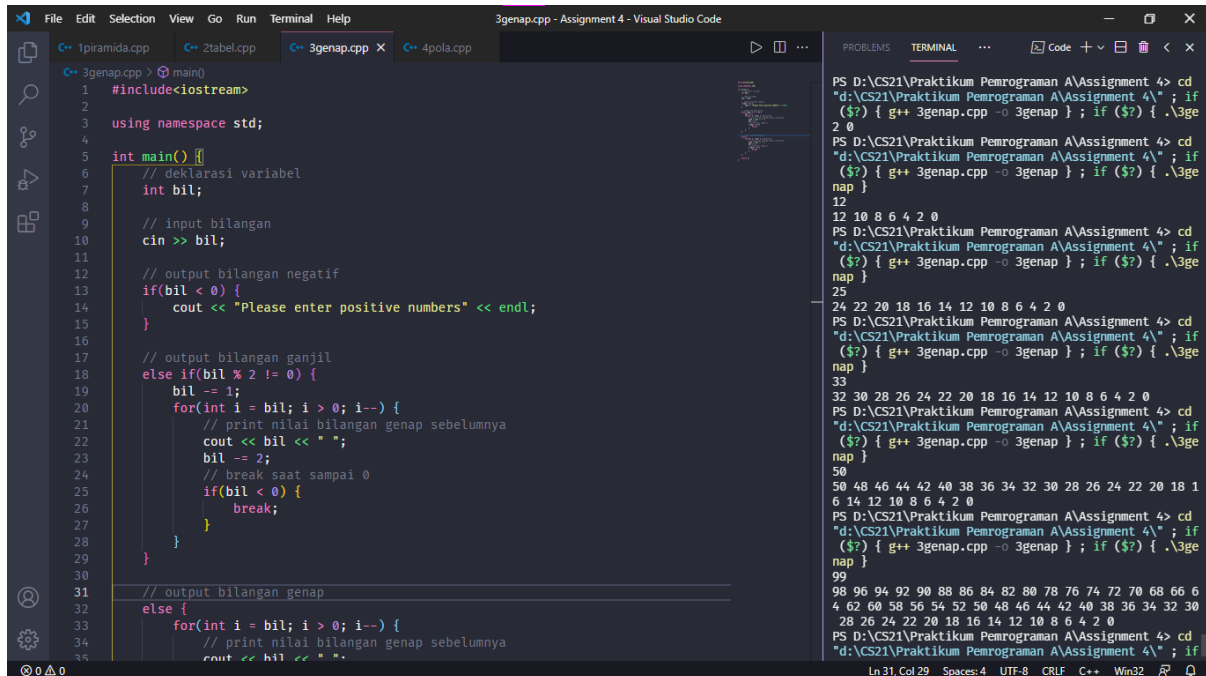
PS D:\CS21\Praikum Pemrograman A\Assignment 4>
```

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### 3) Pola Genap



```
#include<iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int bil;

    // input bilangan
    cin >> bil;

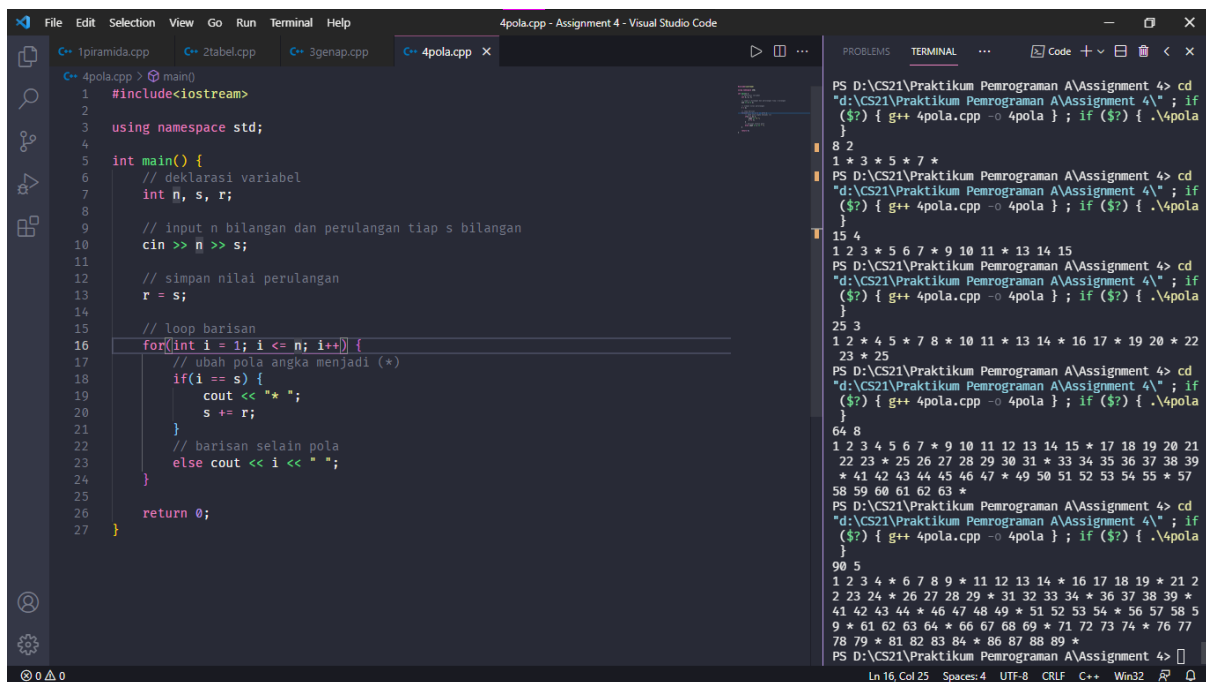
    // output bilangan negatif
    if(bil < 0) {
        cout << "Please enter positive numbers" << endl;
    }

    // output bilangan ganjil
    else if(bil % 2 != 0) {
        bil -= 1;
        for(int i = bil; i > 0; i--) {
            // print nilai bilangan genap sebelumnya
            cout << bil << " ";
            bil -= 2;
            // break saat sampai 0
            if(bil < 0) {
                break;
            }
        }

        // output bilangan genap
    } else {
        for(int i = bil; i > 0; i--) {
            // print nilai bilangan genap sebelumnya
            cout << bil << " ";
        }
    }
}
```

```
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 3genap.cpp -o 3genap }; if ($?) { .\3ge
2 0
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 3genap.cpp -o 3genap }; if ($?) { .\3ge
nap }
12
12 10 8 6 4 2 0
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 3genap.cpp -o 3genap }; if ($?) { .\3ge
nap }
25
24 22 20 18 16 14 12 10 8 6 4 2 0
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 3genap.cpp -o 3genap }; if ($?) { .\3ge
nap }
33
32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 3genap.cpp -o 3genap }; if ($?) { .\3ge
nap }
50
50 48 46 44 42 40 38 36 34 32 30 28 26 24 22 20 18 1
6 14 12 10 8 6 4 2 0
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 3genap.cpp -o 3genap }; if ($?) { .\3ge
nap }
99
98 96 94 92 90 88 86 84 82 80 78 76 74 72 70 68 66 6
4 62 60 58 56 54 52 50 48 46 44 42 40 38 36 34 32 30
28 26 24 22 20 18 16 14 12 10 8 6 4 2 0
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
```

### 4) Pola Bintang



```
#include<iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int n, s, r;

    // input n bilangan dan perulangan tiap s bilangan
    cin >> n >> s;

    // simpan nilai perulangan
    r = s;

    // loop barisan
    for(int i = 1; i <= n; i++) {
        // ubah pola angka menjadi (*)
        if(i == s) {
            cout << "*" << " ";
            s += r;
        }
        // barisan selain pola
        else cout << i << " ";
    }

    return 0;
}
```

```
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 4pola.cpp -o 4pola }; if ($?) { .\4pola
}
8 2
1 * 3 * 5 * 7 *
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 4pola.cpp -o 4pola }; if ($?) { .\4pola
}
15 4
1 2 3 * 5 6 7 * 9 10 11 * 13 14 15
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 4pola.cpp -o 4pola }; if ($?) { .\4pola
}
25 3
1 2 * 4 5 * 7 8 * 10 11 * 13 14 * 16 17 * 19 20 * 22
23 * 25
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 4pola.cpp -o 4pola }; if ($?) { .\4pola
}
64 8
1 2 3 4 5 6 7 * 9 10 11 12 13 14 15 * 17 18 19 20 21
22 23 * 25 26 27 28 29 30 31 * 33 34 35 36 37 38 39
* 41 42 43 44 45 46 47 * 49 50 51 52 53 54 55 * 57
58 59 60 61 62 63 *
PS D:\CS21\Praktikum Pemrograman A\Assignment 4> cd
"d:\CS21\Praktikum Pemrograman A\Assignment 4\"; if
($?) { g++ 4pola.cpp -o 4pola }; if ($?) { .\4pola
}
90 5
1 2 3 4 * 6 7 8 9 * 11 12 13 14 * 16 17 18 19 * 21 2
2 23 24 * 26 27 28 29 * 31 32 33 34 * 36 37 38 39 *
41 42 43 44 * 46 47 48 49 * 51 52 53 54 * 56 57 58 5
9 * 61 62 63 64 * 66 67 68 69 * 71 72 73 74 * 76 77
78 79 * 81 82 83 84 * 86 87 88 89 *
PS D:\CS21\Praktikum Pemrograman A\Assignment 4>
```

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