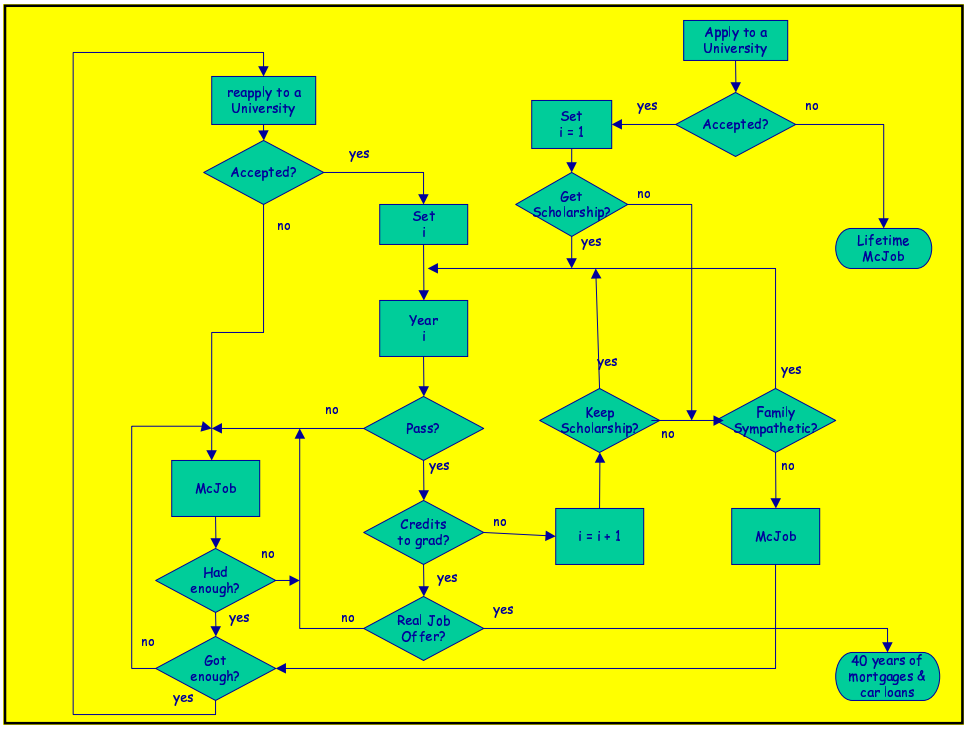
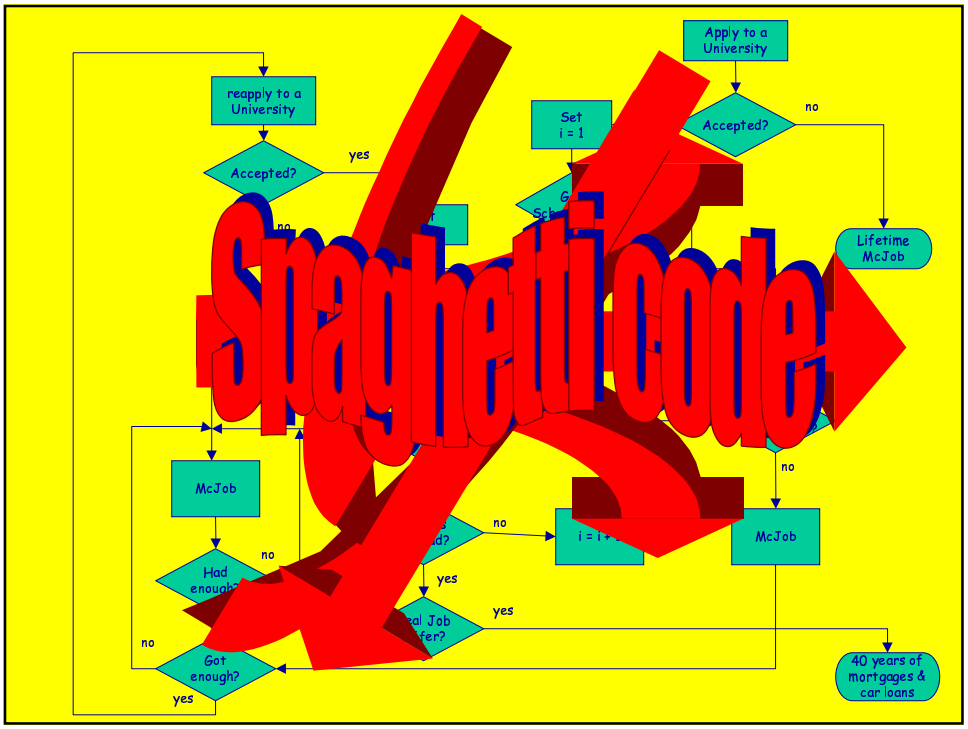
Program Control

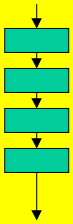
the TeachingMachine video series





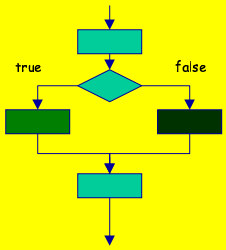
Djkestra's Control Flows

- Simple Sequence



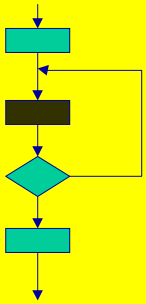
Dijkstra's Control Flows

- Simple Sequence
- Decision



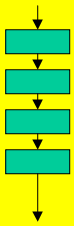
Djkestra's Control Flows

- Simple Sequence
- Decision
- Loop



Simple Sequence

```
int main(){
    int i;
    i = 10;
    cout << “i = “ << i;
    return 0;
}
```



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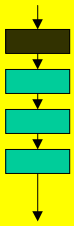

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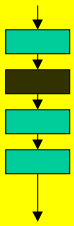

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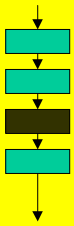

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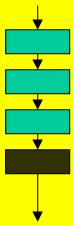

Decisions

```
// output a complex number
cout << '(' << real;
if (imaginary < 0) {
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else {
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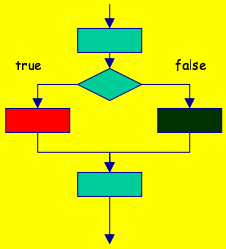

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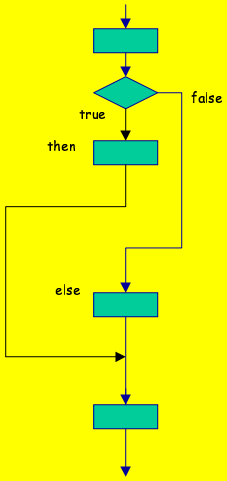

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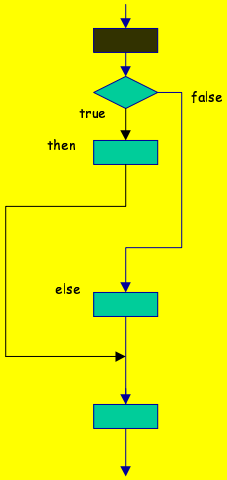

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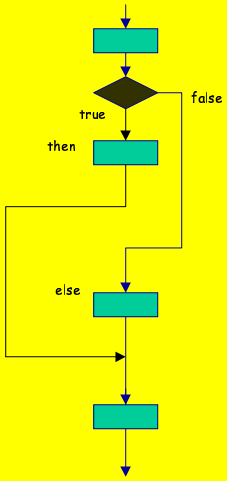

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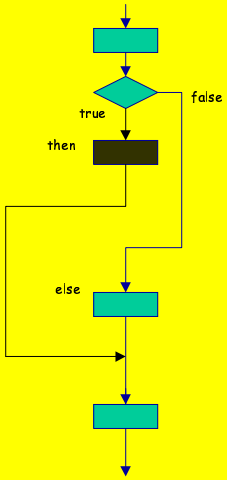

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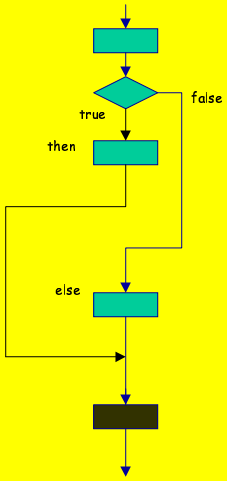

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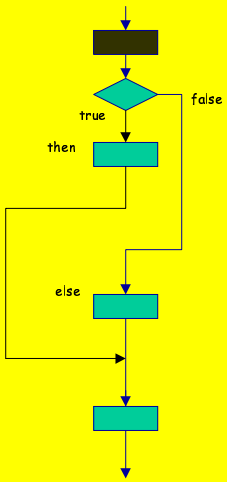

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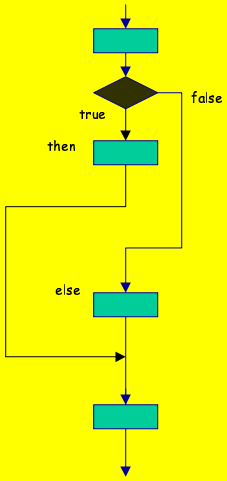

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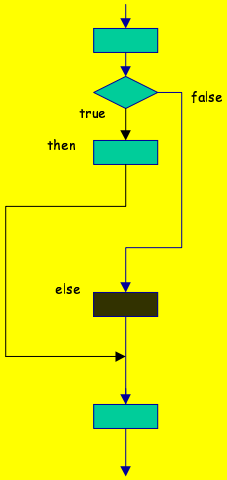

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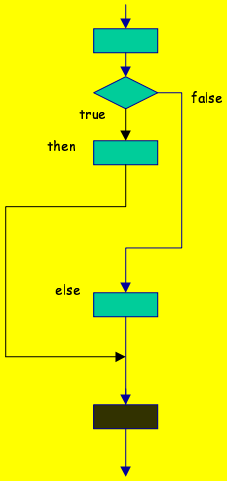
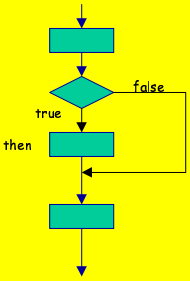


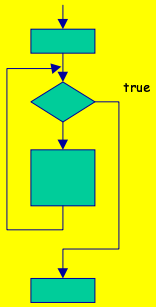
Single Clause Decision

```
// test for real root
double radical = b*b - 4*a*c;
if (radical > 0) {
    cout << "the roots are real\n";
}
cout << "Proceeding to next test\n";
```



Loops

```
int i = 0;
while (i <= 10){
    cout << i << ":\t";
    cout << i*i << '\n';
    i++;
}
cout << "That was 11 squares.";
```



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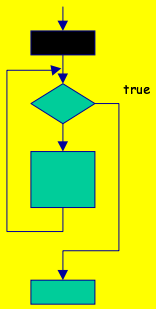

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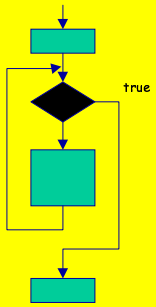

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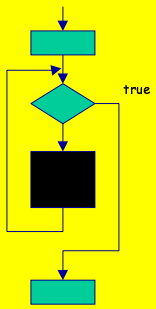

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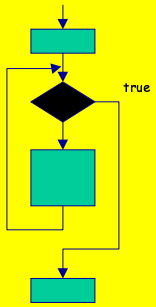

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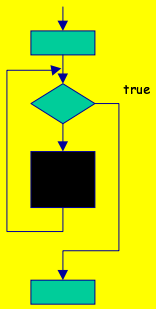

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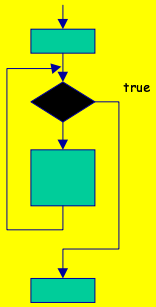

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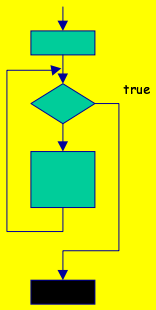
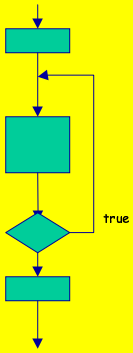


Compound Control



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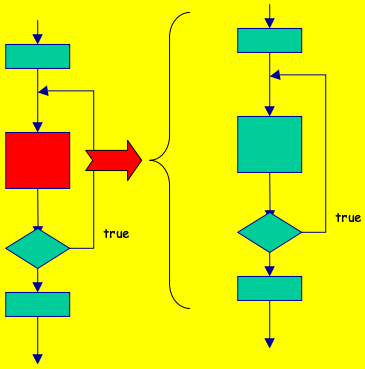

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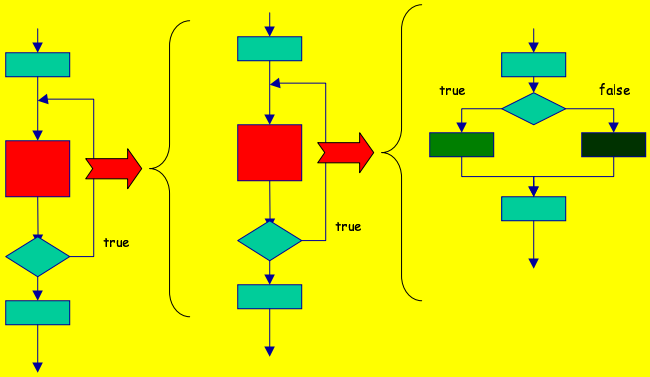

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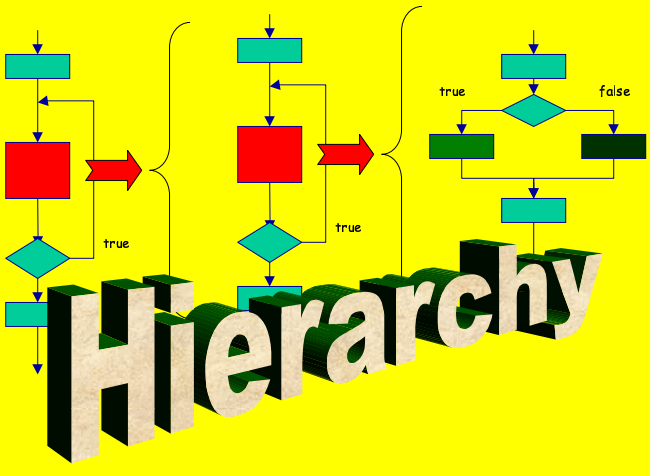
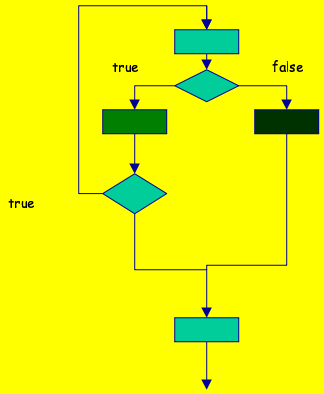


Non-Hierarchial Control



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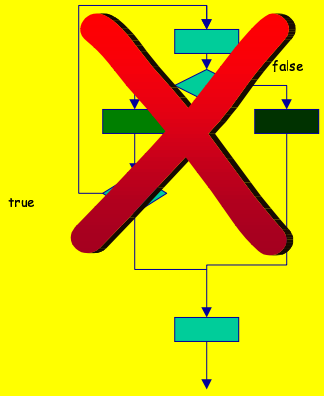

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