

Software metrics for parallelism

MSc by Research project

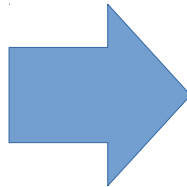
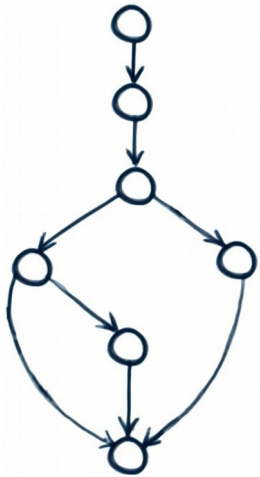
Student: Aleksandr Maramzin

Primary supervisor: Björn Franke

Secondary supervisor: Mike O'Boyle

Software quality metrics

The **Cyclomatic Complexity (CC)** of a section of a code is the number of linearly independent paths through it



Code parallelisability metrics

```
int a[1000];  
int b[1000];  
int c;
```

Good Score

```
// initialize arrays
```

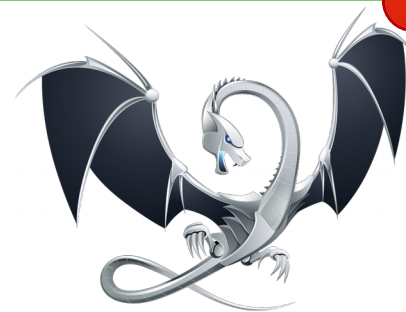
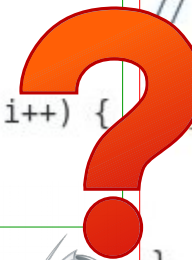
```
c = 0;  
for (int i = 0; i < 1000; i++) {  
    c += a[i] * b[i];  
}
```

```
Node *a;  
Node *b;  
int c;
```

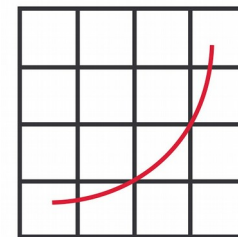
Bad Score

```
// initialize linked lists
```

```
c = 0;  
while (a && b) {  
    c += a->val * b->val;  
    a = a->next;  
    b = b->next;  
}
```



LLVM



spec[®]



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