

# Ahmed Radwan

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## Report For Data-Flow GCSE

Benchmark	Orig. # Inst.	Opt. Time	Opt. # Inst.
Arrayparam	841	0.296s	616
Bubble	4374	0.286s	3114
Check	140	0.251s	120
Dynamic	39155	0.351s	23947
Fib	274	0.262s	232
Gcd	103	0.251s	83
Newdyn	136919	0.294s	85920
QS	4574	0.296s	3564
While Array	377	0.247s	321

## GRE Bash Script Output

Bash script found in root directory named **gre**.

```

Program starting
-----arrayparam-----
Parsed.

real    0m0.300s
user    0m0.425s
sys 0m0.054s
21c21
< Total Instructions Executed = 841
---
> Total Instructions Executed = 616
-----bubble-----
Parsed.

real    0m0.328s
user    0m0.523s
sys 0m0.054s
16c16
< Total Instructions Executed = 4374
---
> Total Instructions Executed = 3114
-----check-----

```

Parsed.

```
real    0m0.271s
user    0m0.376s
sys 0m0.047s
2c2
< Total Instructions Executed = 140
```

---

```
> Total Instructions Executed = 120
```

```
-----dynamic-----
```

Parsed.

```
real    0m0.421s
user    0m0.776s
sys 0m0.060s
2c2
< Total Instructions Executed = 39155
```

---

```
> Total Instructions Executed = 23947
```

```
-----fib-----
```

Parsed.

```
real    0m0.269s
user    0m0.373s
sys 0m0.051s
21c21
< Total Instructions Executed = 274
```

---

```
> Total Instructions Executed = 232
```

```
-----gcd-----
```

Parsed.

```
real    0m0.279s
user    0m0.391s
sys 0m0.048s
2c2
< Total Instructions Executed = 103
```

---

```
> Total Instructions Executed = 83
```

```
-----newdyn-----
```

Parsed.

```
real    0m0.333s
user    0m0.531s
sys 0m0.056s
2c2
< Total Instructions Executed = 136919
```

---

```
> Total Instructions Executed = 85920
```

```
-----
```

```
-----qs-----  
Parsed.  
  
real    0m0.309s  
user    0m0.457s  
sys 0m0.055s  
61c61  
< Total Instructions Executed = 4574  
---  
> Total Instructions Executed = 3564  
-----  
-----while_array-----  
Parsed.  
  
real    0m0.292s  
user    0m0.387s  
sys 0m0.052s  
11c11  
< Total Instructions Executed = 377  
---  
> Total Instructions Executed = 321  
Done.
```