

Computer Architecture And Microprocessors

ASSIGNMENT 2

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```
mov r0,1      #variable i
```

```
. loop1:
```

```
    mov r1,1      #variable j
```

```
    mov r2,0      #counter
```

```
. loop2:
```

```
    add r3,r2,1      #variable k
```

```
. loop3:
```

```
    mul r4,r1,r1
```

```
    mul r4,r4,r1
```

```
    mul r5,r3,r3
```

```
    mul r5,r5,r3
```

```
    add r6,r4,r5
```

```
    cmp r6,r0 add
```

```
    r3,r3,1 beq
```

```
    .counter cmp
```

```
    1,1
```

```
    beq . loop4
```

```

        .counter:
        add    r2, r2, 1
        .loop4:
        mul    r7, r3, r3
        mul    r7, r7, r3
        cmp    r7, r0
        bgt    .loop2

        mul    r8, r2, r2
        mul    r8, r8, r2
        add    r2, r2, 1
        cmp    r8, r0 bgt
        .loop1

        cmp    r2, 2
        beq    .endprogram
        add    r0, r0, 1

.endprogram: mov r9, r0

```