Intro C Evaluation Assignment

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1.

```
1  // witness the POWER and MIGHT of WHITNEYC
2  #include <stdio.h>
3  typedef char C;typedef int I;
4  #define P printf
5  #define S scanf
6  #define R return
7  #define F(i,s,e) for(I i=s;i<e;i++)
8  C *choose_mover(I b){R 200*((b+22)/23)<260*((b+29)/30)?"Alice":"Bob";}
9  main(){F(n,1,30){P("%d: %s\n", n, choose_mover(n));}}
```

2.

```
1  // the divine teachings of the sacred text (https://code.jsoftware.com/wiki/Essays/Incunabulum)
   ↪   will reveal all truths.
2  #include <stdio.h>
3  typedef int I;
4  #define P printf
5  #define S sizeof
6  #define R return
7  #define N continue
8  #define B break
9  #define F(i,s,e) for(I i=s;i<e;i++)
10 I *find_divisor(I a[],I l){I r[2];F(i,0,l){F(j,0,l){if(i==j)N;
11  if(a[i]%a[j]==0)R(I[]){a[j],a[i]};}}R(I[]){0,0};}
12 main(){I a[]={3,8,12,20};I* r=find_divisor(a,S(a)/S(*a));P("%d,%d\n",r[0],r[1]);}
```

3.

```
1   // good luck
2   #include <stdio.h>
3   #include <math.h>
4   typedef int I;
5   #define P printf
6   #define R return
7   #define W while(1)
8   #define F(i,s,e) for(I i=s;i<e;i++)
9   I powers(I n){I r=0,b=2;W{I a=(I)(log(n-1)/log(b))-1;if(a<=0)R(r);r+=a;b++;}}
10  main(){F(n,2,30){P("%d: %d\n",n,powers(n));}}
```

4.

```c
// :^)
#include <stdio.h>
typedef int I;
#define R return
#define P printf
#define W while
#define F(i,s,e) for(I i=s;i<e;i++)
I f(I n){I p=0,c=1;W(n-->1){I t=p;p=c;c+=t;}R(c);}
main(){F(n,1,30){P("%d\n", f(n));}}
```

5.   Makefile

```
1:
        gcc 1.c -o bin/1
run1:        1
        ./bin/1
2:
        gcc 2.c -o bin/2
run2:        2
        ./bin/2
3:
        gcc 3.c -o bin/3 -lm
run3:        3
        ./bin/3
4:
        gcc 4.c -o bin/4
run4:        4
        ./bin/4
```