1

week2 > C index.c > ...

```c
#include <stdio.h>

int main(){
    printf("hello world!!\n");
    return 0;
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Clzstuffs\HPC\week2> gcc index.c -o index
PS C:\Clzstuffs\HPC\week2> ./index
hello world!!
PS C:\Clzstuffs\HPC\week2>
```

2

```c
int main() {
    int n = 19;
    printf("Hello\n My favorite number is %d\n", n);
    return EXIT_SUCCESS;
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Clzstuffs\HPC\week2> gcc index.c -o index
PS C:\Clzstuffs\HPC\week2> ./index
hello world!!
PS C:\Clzstuffs\HPC\week2> gcc index.c -o index
PS C:\Clzstuffs\HPC\week2> ./index
Hello
 My favorite number is 19
PS C:\Clzstuffs\HPC\week2>
```

3.

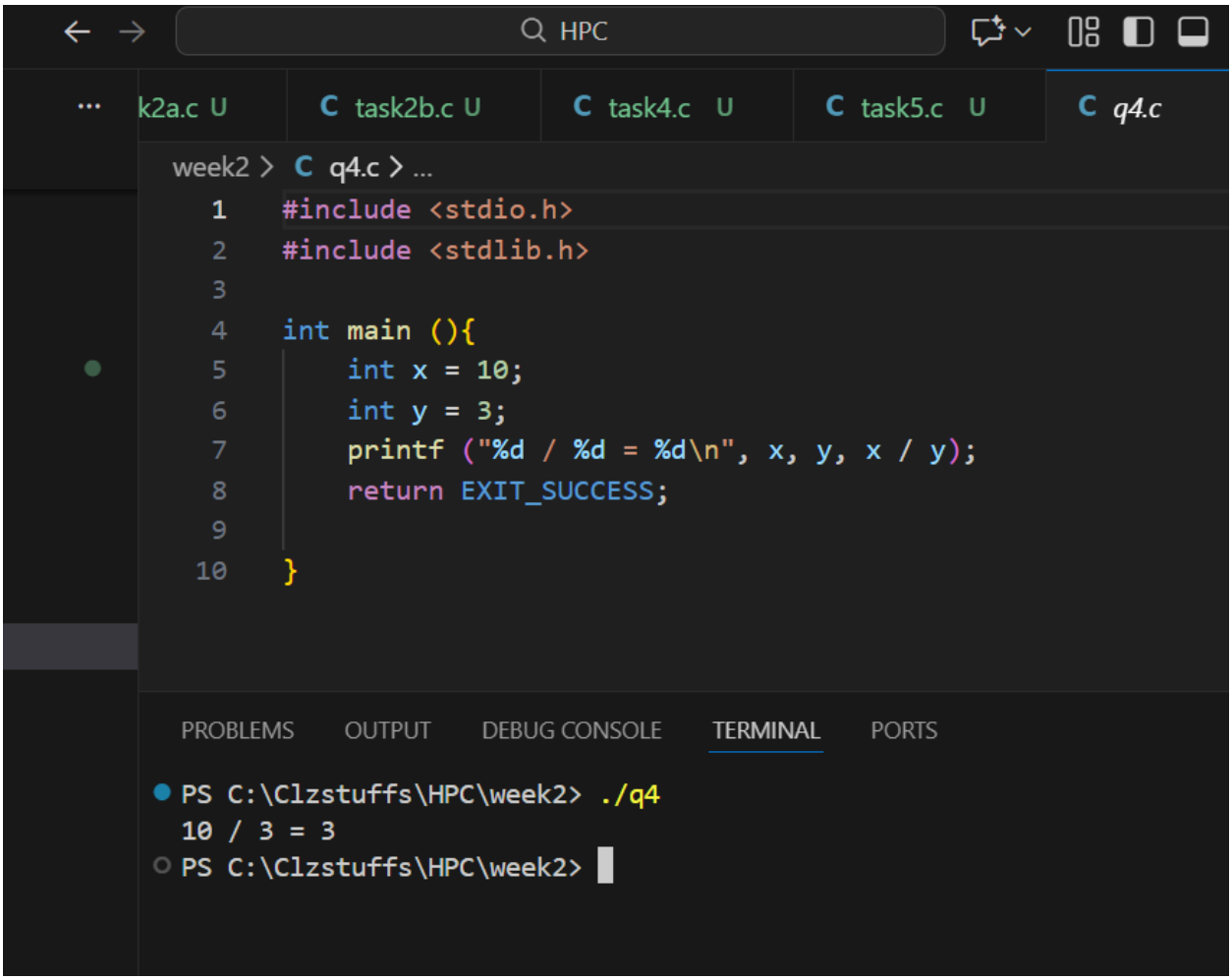
week2 > C q3.c > ...

```c
#include <stdio.h>
#include <stdlib.h>

int main (){
    int i;
    for(i=0;i<5;i++){
        printf("%d, ", i);
    }
    printf("\n");
    while(i<10){
        printf("%d, ", i);
        i++;

    }
    do{
        printf("%d, ", i);
        i++;
    }while(i<15);
    printf("\n");

    if(i>13){
        printf("custard\n");
    }else{
        printf("gravy\n");
    }
    return EXIT_SUCCESS;

}

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Clzstuffs\HPC\week2> ./q3
0, 1, 2, 3, 4,
5, 6, 7, 8, 9, 10, 11, 12, 13, 14,
custard
PS C:\Clzstuffs\HPC\week2>
```

4.


HPC
k2a.c U
task2b.c U
task4.c U
task5.c U
q4.c
week2 > q4.c > ...
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 int main (){
5 int x = 10;
6 int y = 3;
7 printf ("%d / %d = %d\n", x, y, x / y);
8 return EXIT_SUCCESS;
9
10 }
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> ./q4
10 / 3 = 3
PS C:\Clzstuffs\HPC\week2>

5.

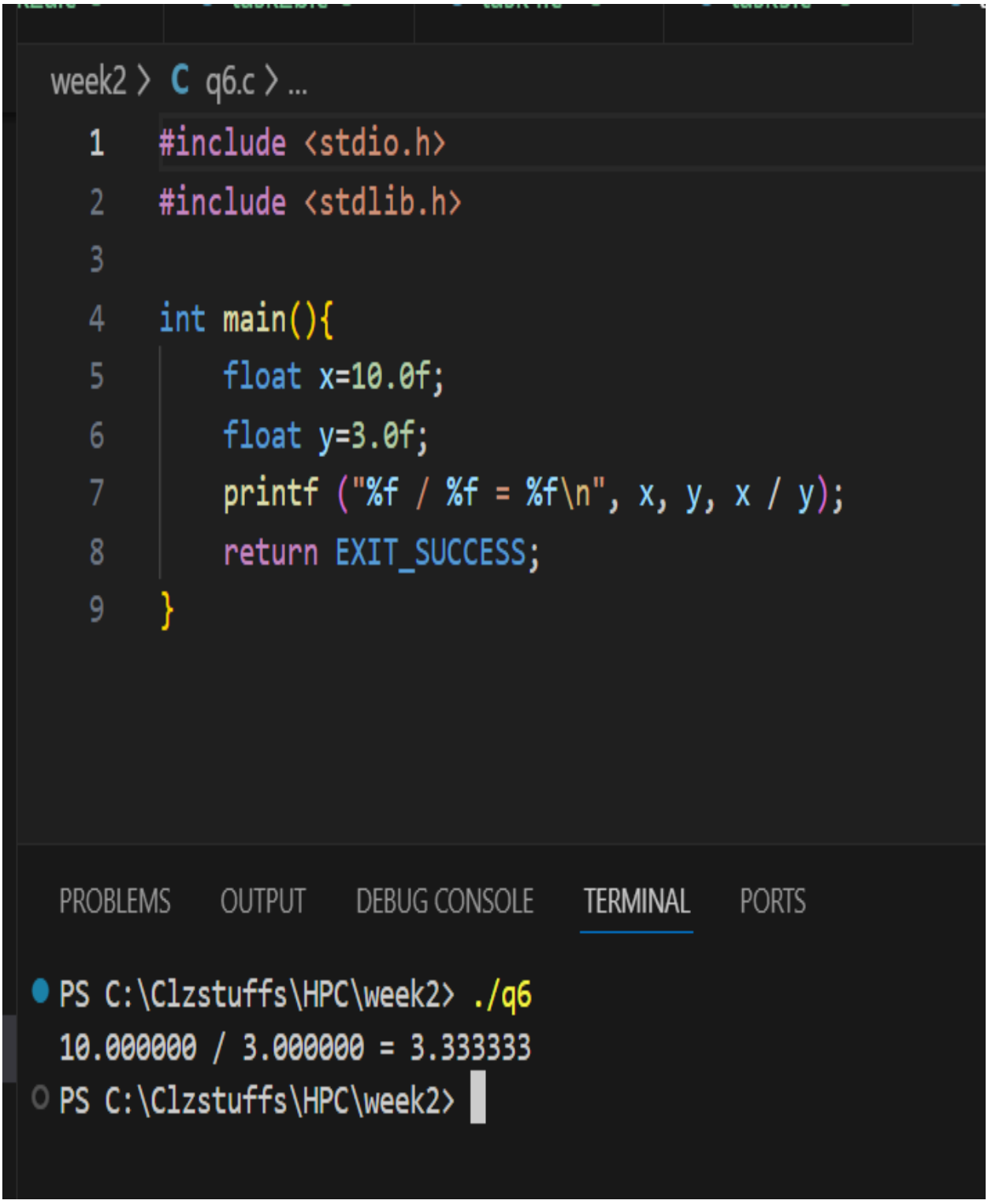
week2 > C q5.c > ...

```c
#include <stdio.h>
#include <stdlib.h>

int main (){
    long int x =10L;
    long int y =3L;
    printf ("%ld / %ld = %ld\n", x, y, x / y);
    return EXIT_SUCCESS;
}
```

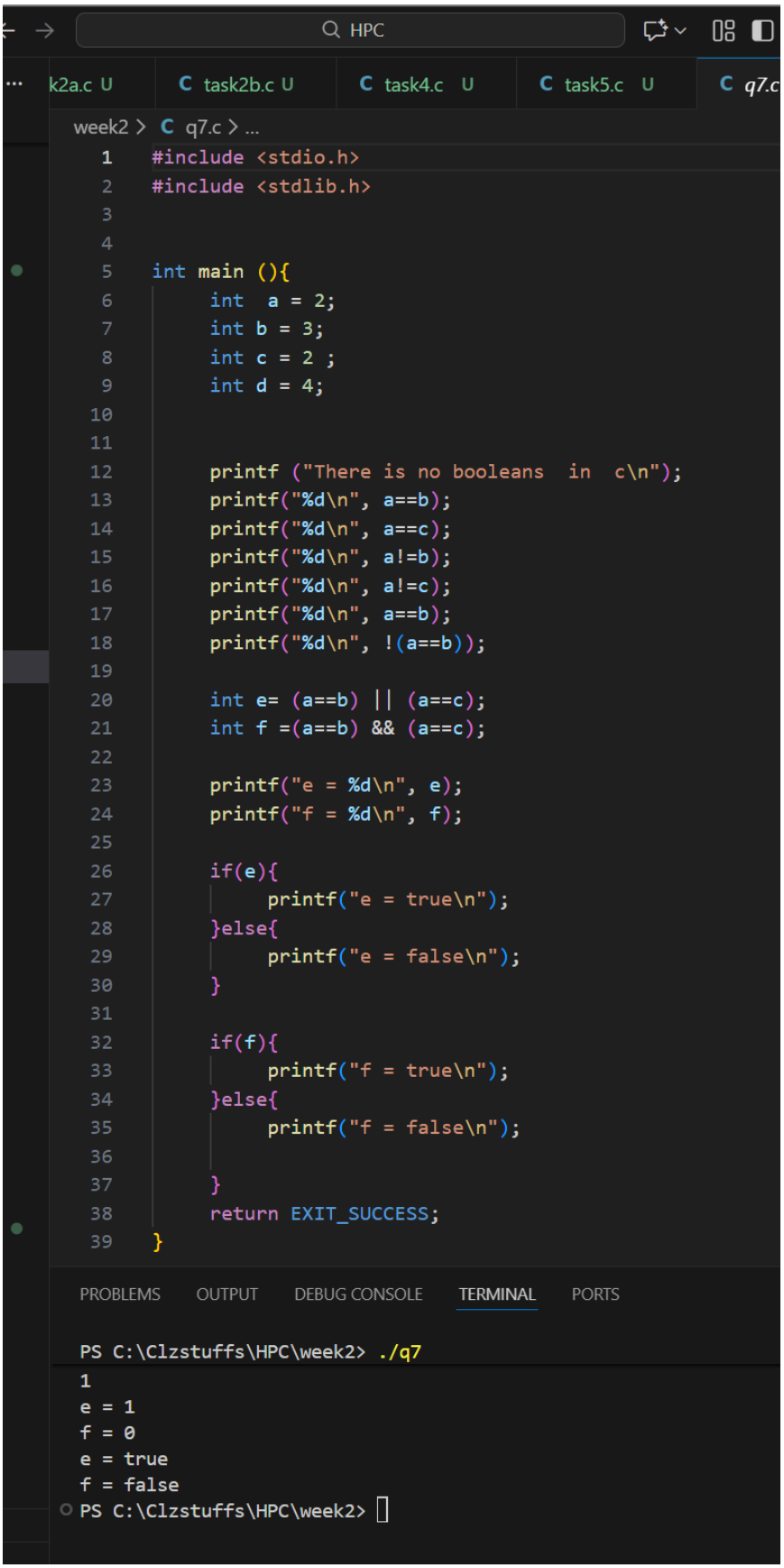
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Clzstuffs\HPC\week2> ./q5
10 / 3 = 3
PS C:\Clzstuffs\HPC\week2>
```

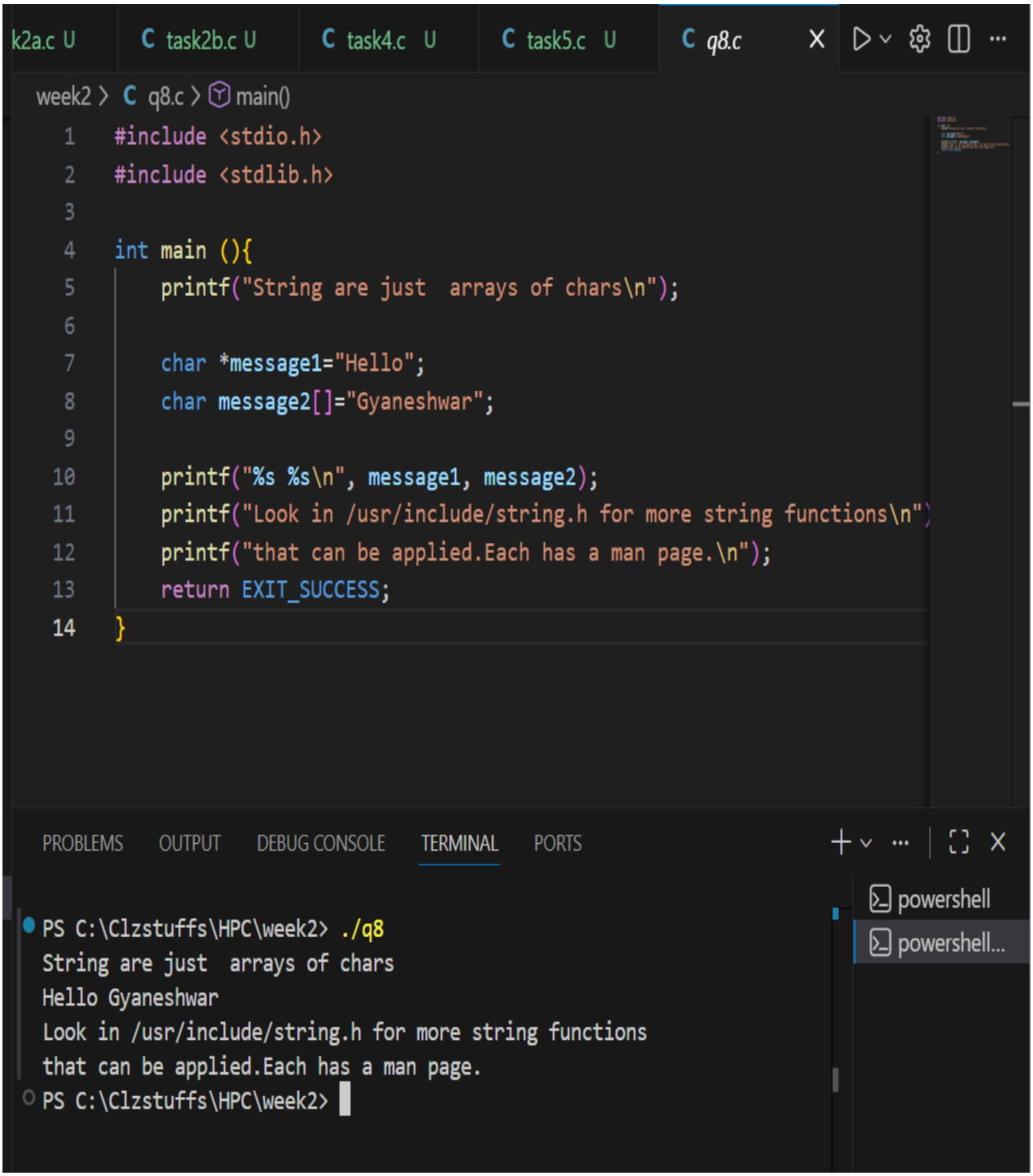
6.


week2 > C q6.c > ...
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 int main(){
5 float x=10.0f;
6 float y=3.0f;
7 printf ("%f / %f = %f\n", x, y, x / y);
8 return EXIT_SUCCESS;
9 }
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> ./q6
10.000000 / 3.000000 = 3.333333
PS C:\Clzstuffs\HPC\week2>

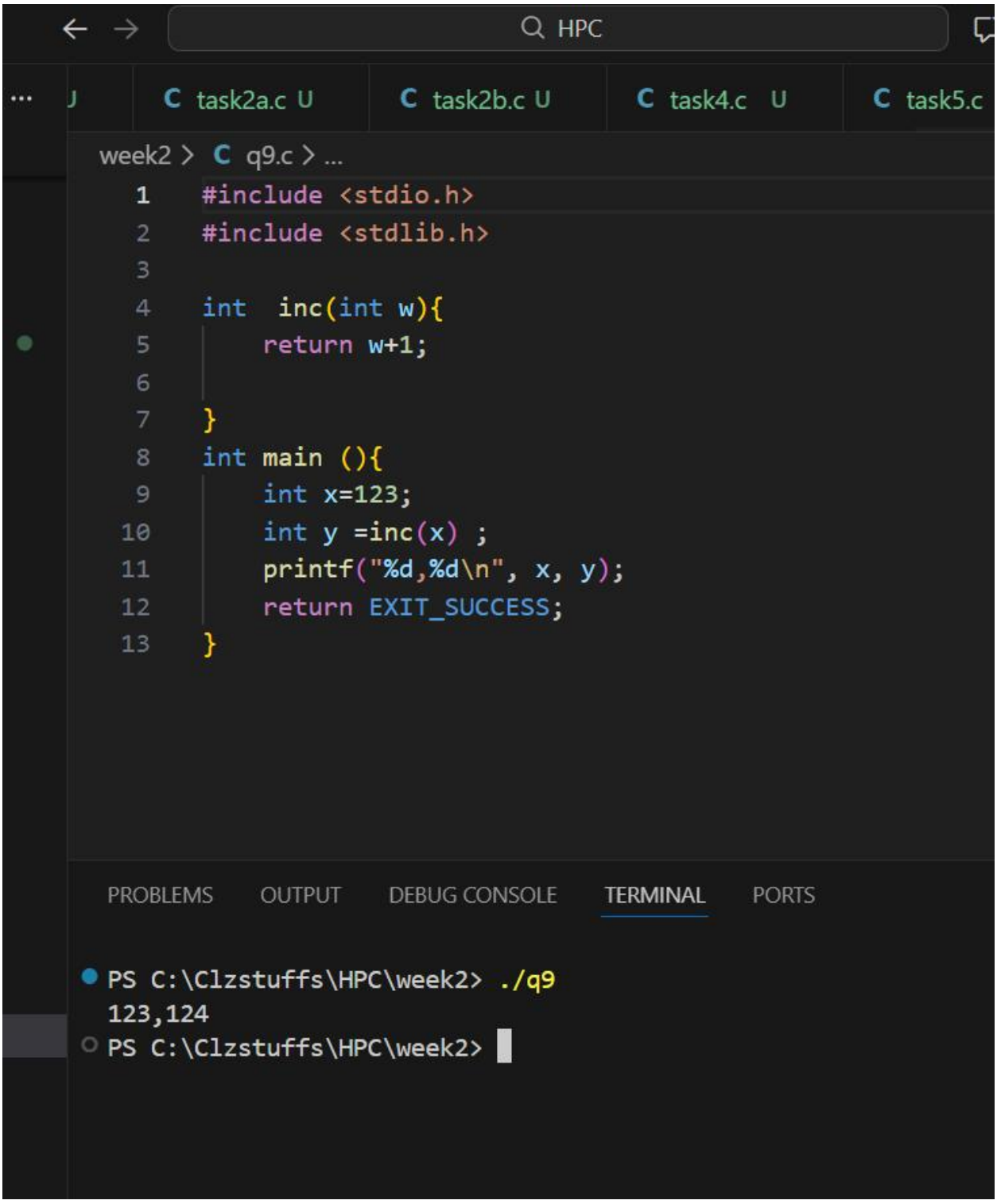
7.


HPC
k2a.c U
task2b.c U
task4.c U
task5.c U
q7.c
week2 > q7.c > ...
#include <stdio.h>
#include <stdlib.h>
int main (){
int a = 2;
int b = 3;
int c = 2 ;
int d = 4;
printf ("There is no booleans in c\n");
printf("%d\n", a==b);
printf("%d\n", a==c);
printf("%d\n", a!=b);
printf("%d\n", a!=c);
printf("%d\n", a==b);
printf("%d\n", !(a==b));
int e= (a==b) || (a==c);
int f =(a==b) && (a==c);
printf("e = %d\n", e);
printf("f = %d\n", f);
if(e){
printf("e = true\n");
}else{
printf("e = false\n");
}
if(f){
printf("f = true\n");
}else{
printf("f = false\n");
}
return EXIT_SUCCESS;
}
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> ./q7
1
e = 1
f = 0
e = true
f = false
PS C:\Clzstuffs\HPC\week2>

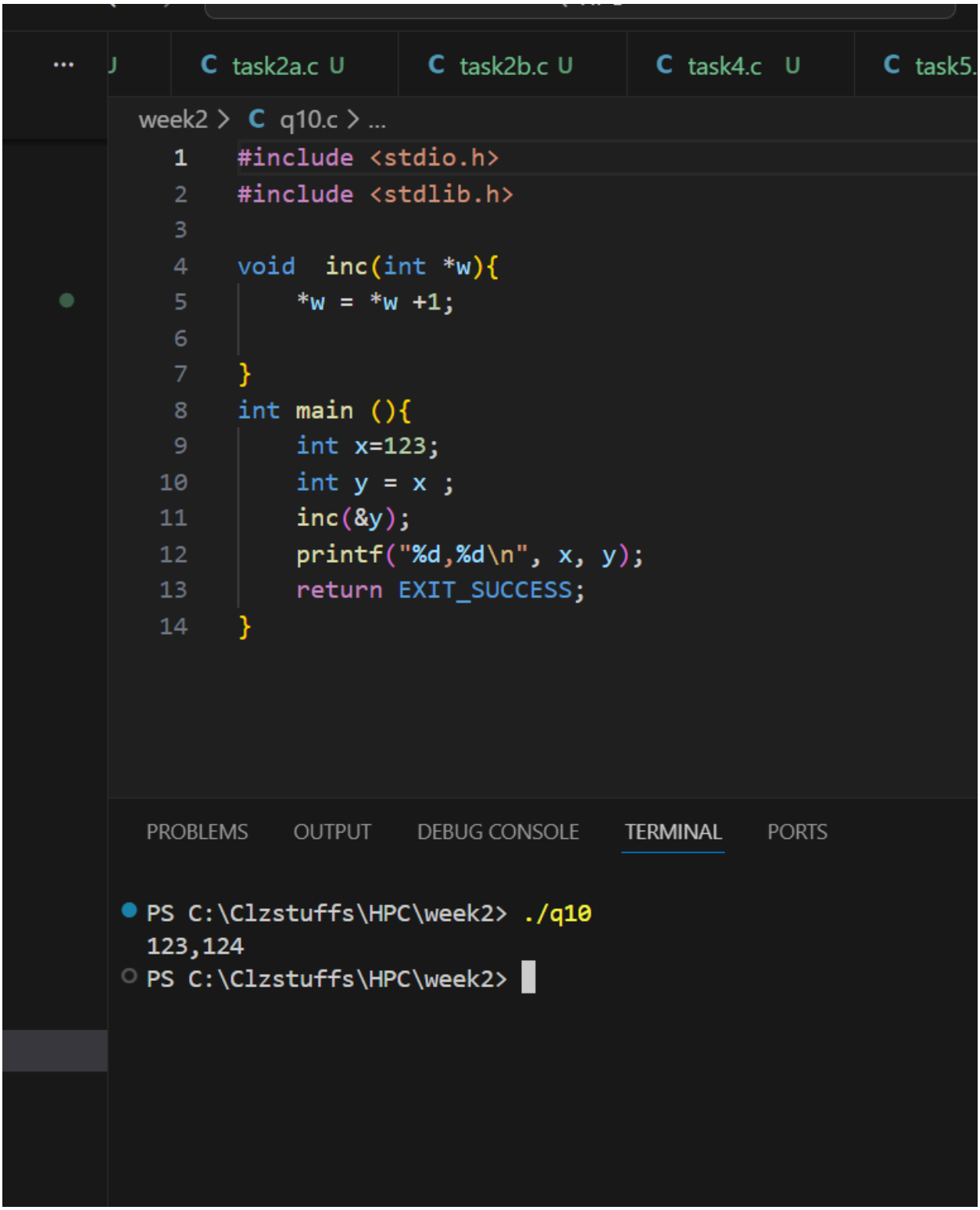
8.


k2a.c U
task2b.c U
task4.c U
task5.c U
q8.c
week2 > q8.c > main()
#include <stdio.h>
#include <stdlib.h>
int main (){
printf("String are just arrays of chars\n");
char *message1="Hello";
char message2[]="Gyaneshwar";
printf("%s %s\n", message1, message2);
printf("Look in /usr/include/string.h for more string functions\n");
printf("that can be applied.Each has a man page.\n");
return EXIT_SUCCESS;
}
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
powershell
powershell...
PS C:\Clzstuffs\HPC\week2> ./q8
String are just arrays of chars
Hello Gyaneshwar
Look in /usr/include/string.h for more string functions
that can be applied.Each has a man page.
PS C:\Clzstuffs\HPC\week2>

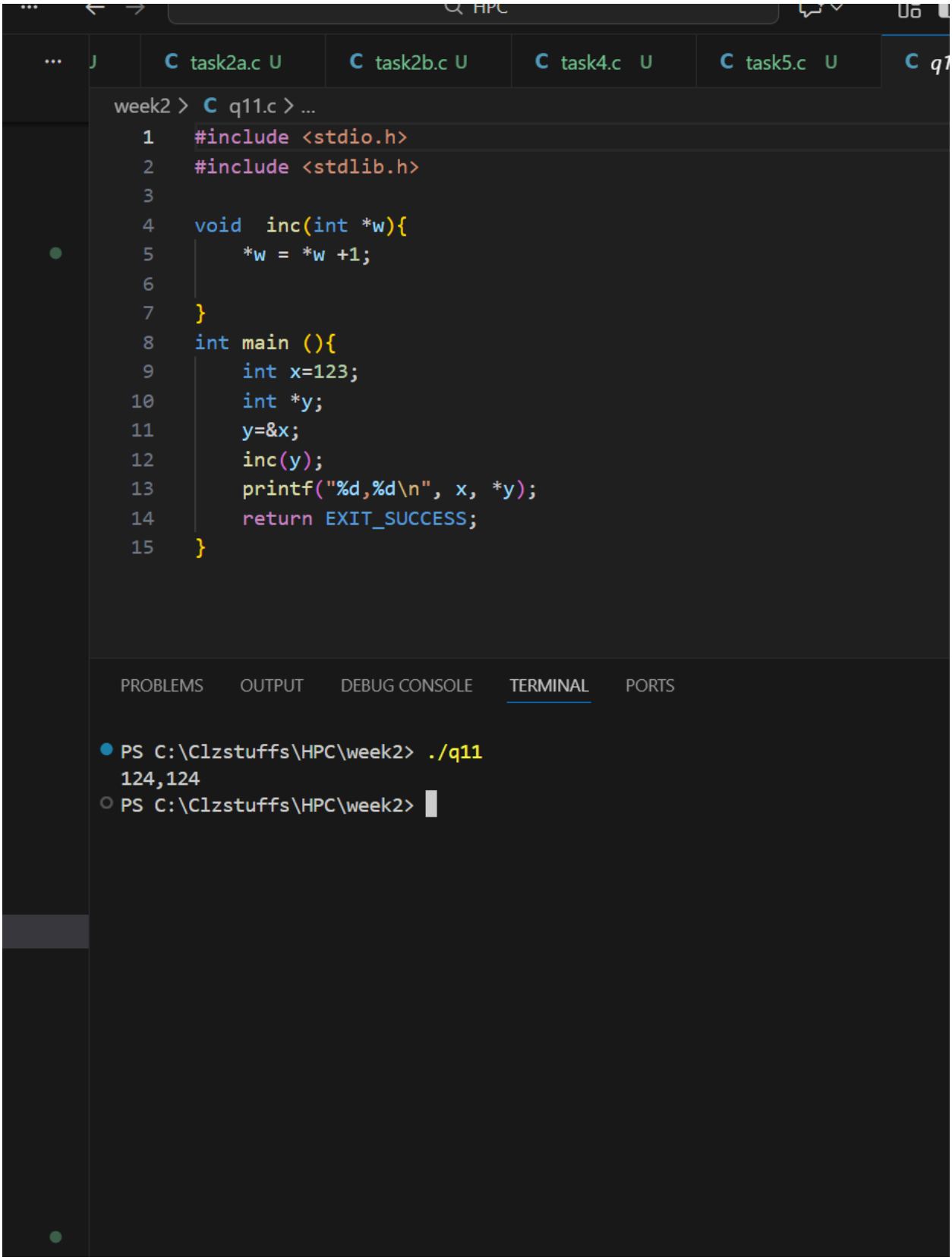
9.


HPC
task2a.c U
task2b.c U
task4.c U
task5.c
week2 > q9.c > ...
#include <stdio.h>
#include <stdlib.h>
int inc(int w){
return w+1;
}
int main (){
int x=123;
int y =inc(x) ;
printf("%d,%d\n", x, y);
return EXIT_SUCCESS;
}
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> ./q9
123,124
PS C:\Clzstuffs\HPC\week2>

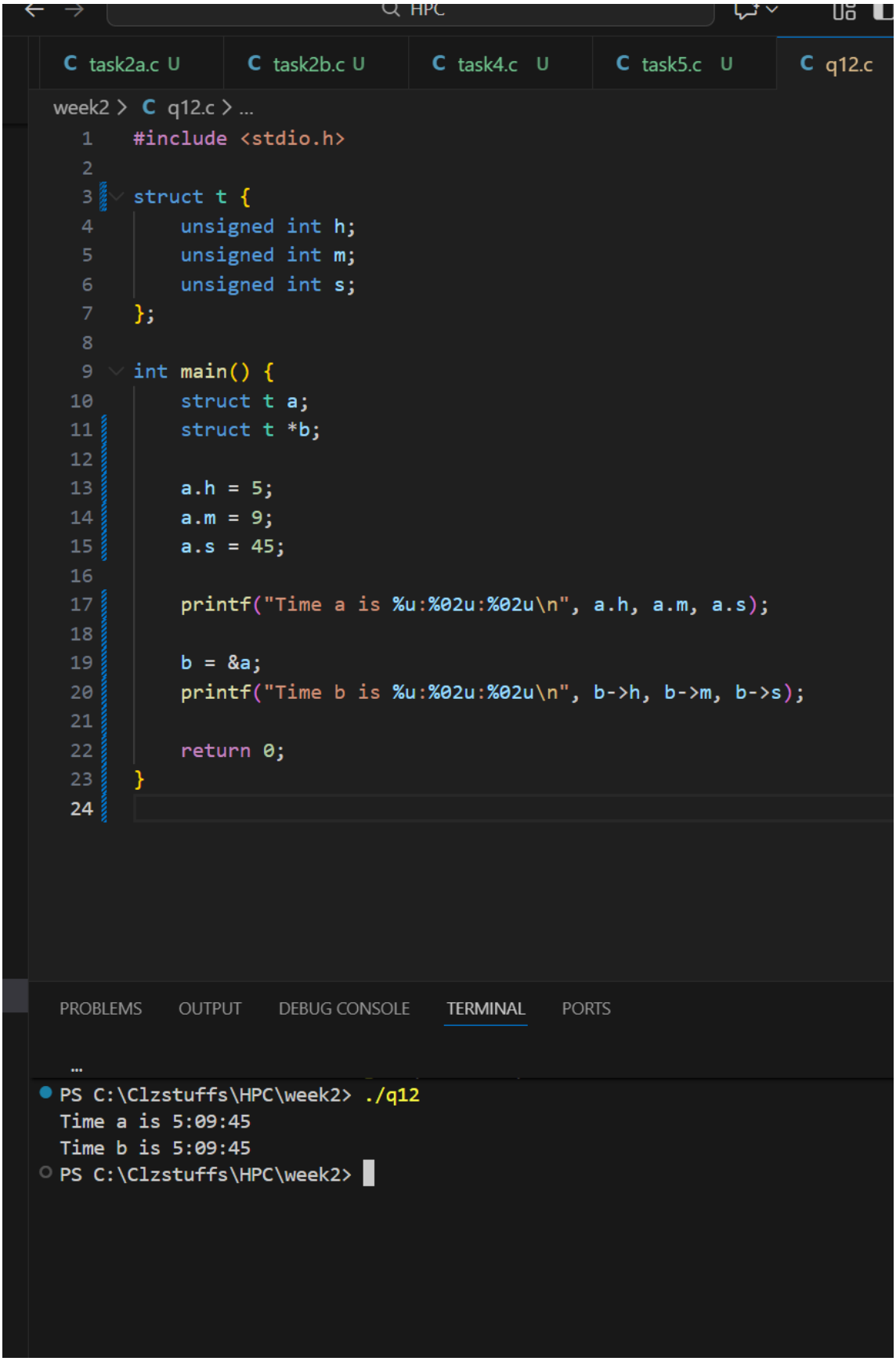
10.


task2a.c U
task2b.c U
task4.c U
task5.
week2 > C q10.c > ...
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 void inc(int *w){
5 *w = *w +1;
6
7 }
8 int main (){
9 int x=123;
10 int y = x ;
11 inc(&y);
12 printf("%d,%d\n", x, y);
13 return EXIT_SUCCESS;
14 }
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> ./q10
123,124
PS C:\Clzstuffs\HPC\week2>

11.


HPC
task2a.c U
task2b.c U
task4.c U
task5.c U
week2 > q11.c > ...
#include <stdio.h>
#include <stdlib.h>
void inc(int *w){
*w = *w +1;
}
int main (){
int x=123;
int *y;
y=&x;
inc(y);
printf("%d,%d\n", x, *y);
return EXIT_SUCCESS;
}
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> ./q11
124,124
PS C:\Clzstuffs\HPC\week2>

12.


HPC
task2a.c U
task2b.c U
task4.c U
task5.c U
q12.c
week2 > q12.c > ...
#include <stdio.h>
struct t {
unsigned int h;
unsigned int m;
unsigned int s;
};
int main() {
struct t a;
struct t *b;
a.h = 5;
a.m = 9;
a.s = 45;
printf("Time a is %u:%02u:%02u\n", a.h, a.m, a.s);
b = &a;
printf("Time b is %u:%02u:%02u\n", b->h, b->m, b->s);
return 0;
}
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> ./q12
Time a is 5:09:45
Time b is 5:09:45
PS C:\Clzstuffs\HPC\week2>

13,

week2 > C q13.c > ...

```c
#include <stdio.h>

typedef struct {
    unsigned int h;
    unsigned int m;
    unsigned int s;
} t;

int main() {
    t a;
    t *b;

    a.h = 5;
    a.m = 9;
    a.s = 45;

    printf("Time a is %u:%02u:%02u\n", a.h, a.m, a.s);

    return 0;
}

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Clzstuffs\HPC\week2> ./q12
Time a is 5:09:45
Time b is 5:09:45
PS C:\Clzstuffs\HPC\week2> gcc q13.c -o q13
PS C:\Clzstuffs\HPC\week2> ./q13
Time a is 5:09:45
PS C:\Clzstuffs\HPC\week2>
```

14.

week2 > C q14.c > ...

```c
#include <stdio.h>
#include <malloc.h>

typedef struct {
    unsigned int h;
    unsigned int m;
    unsigned int s;
} t;

int main() {
    t *a;
    a = (t *) malloc(sizeof(t));

    a->h = 5;
    a->m = 9;
    a->s = 45;

    printf("Time a is %u:%02u:%02u\n", a->h, a->m, a->s);

    free(a);
    return 0;
}

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Clzstuffs\HPC\week2> gcc q14.c -o q14
PS C:\Clzstuffs\HPC\week2> ./q14
Time a is 5:09:45
PS C:\Clzstuffs\HPC\week2>
```

15.

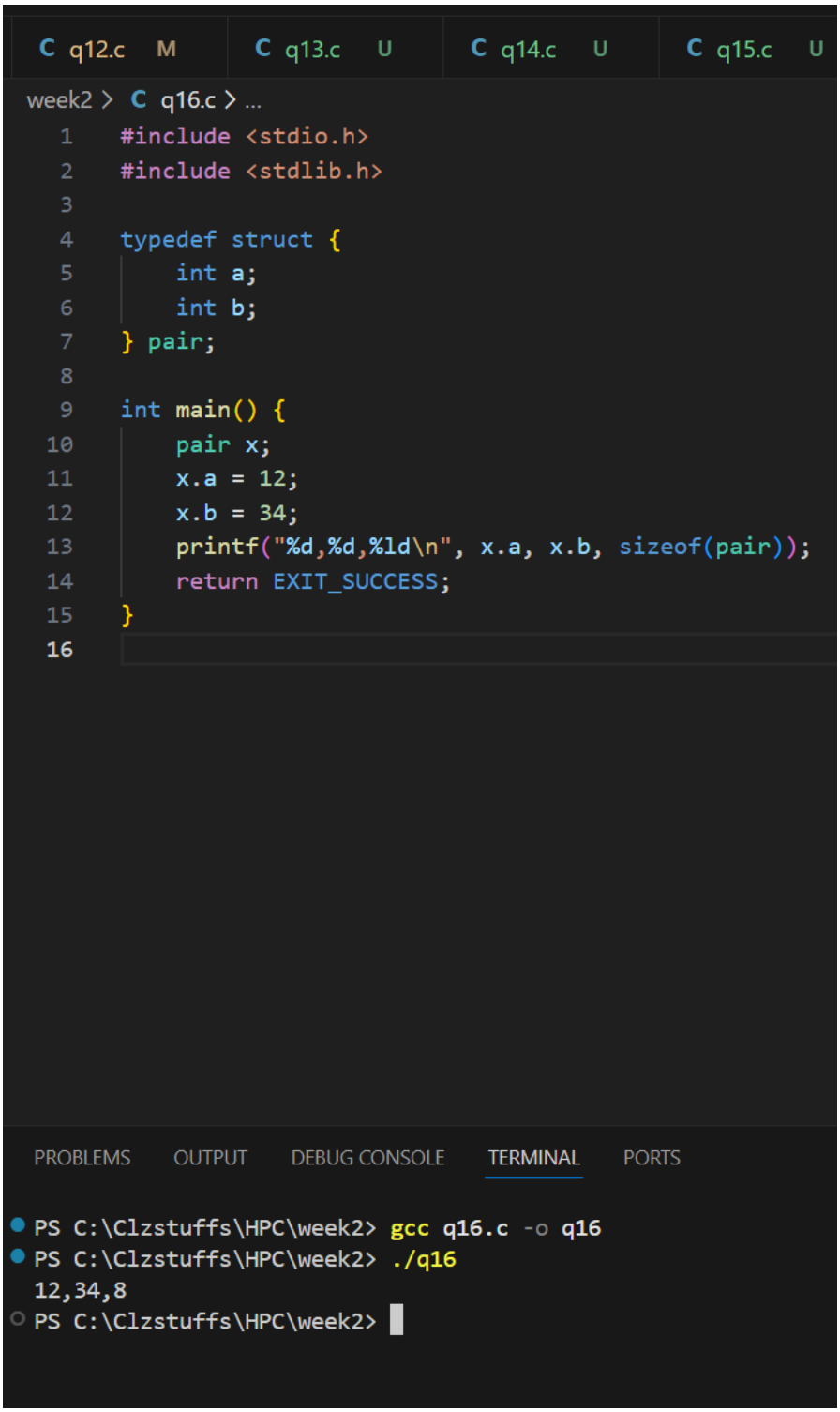
week2 > C q15.c > ...

```c
#include <stdio.h>
#include <stdlib.h>

struct pair {
    int a;
    int b;
};

int main() {
    struct pair x;
    x.a = 12;
    x.b = 34;
    printf("%d,%d,%ld\n", x.a, x.b, sizeof(struct pair));
    return EXIT_SUCCESS;
}

```

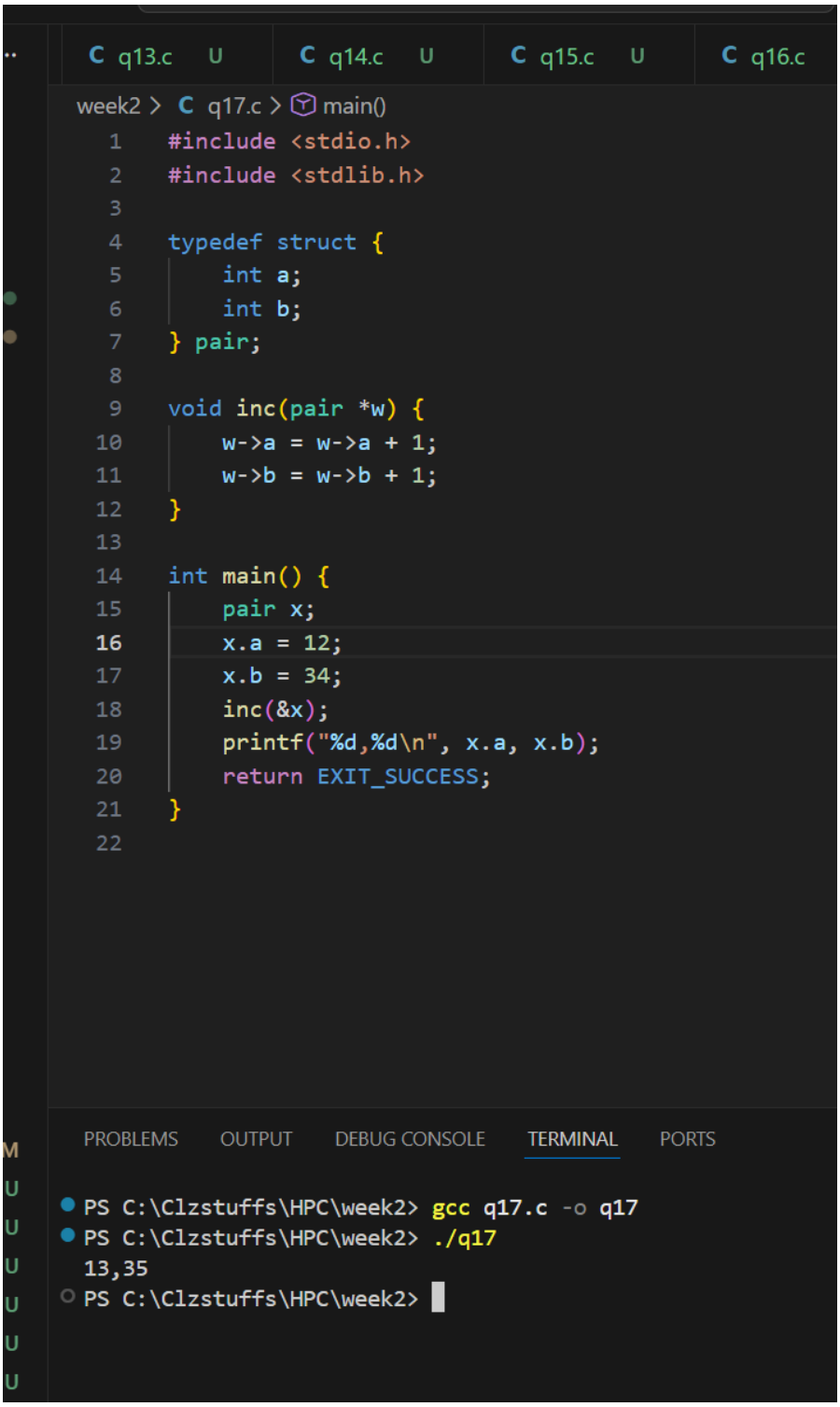
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Clzstuffs\HPC\week2> gcc q15.c -o q15
PS C:\Clzstuffs\HPC\week2> ./q15
12,34,8
PS C:\Clzstuffs\HPC\week2>
```

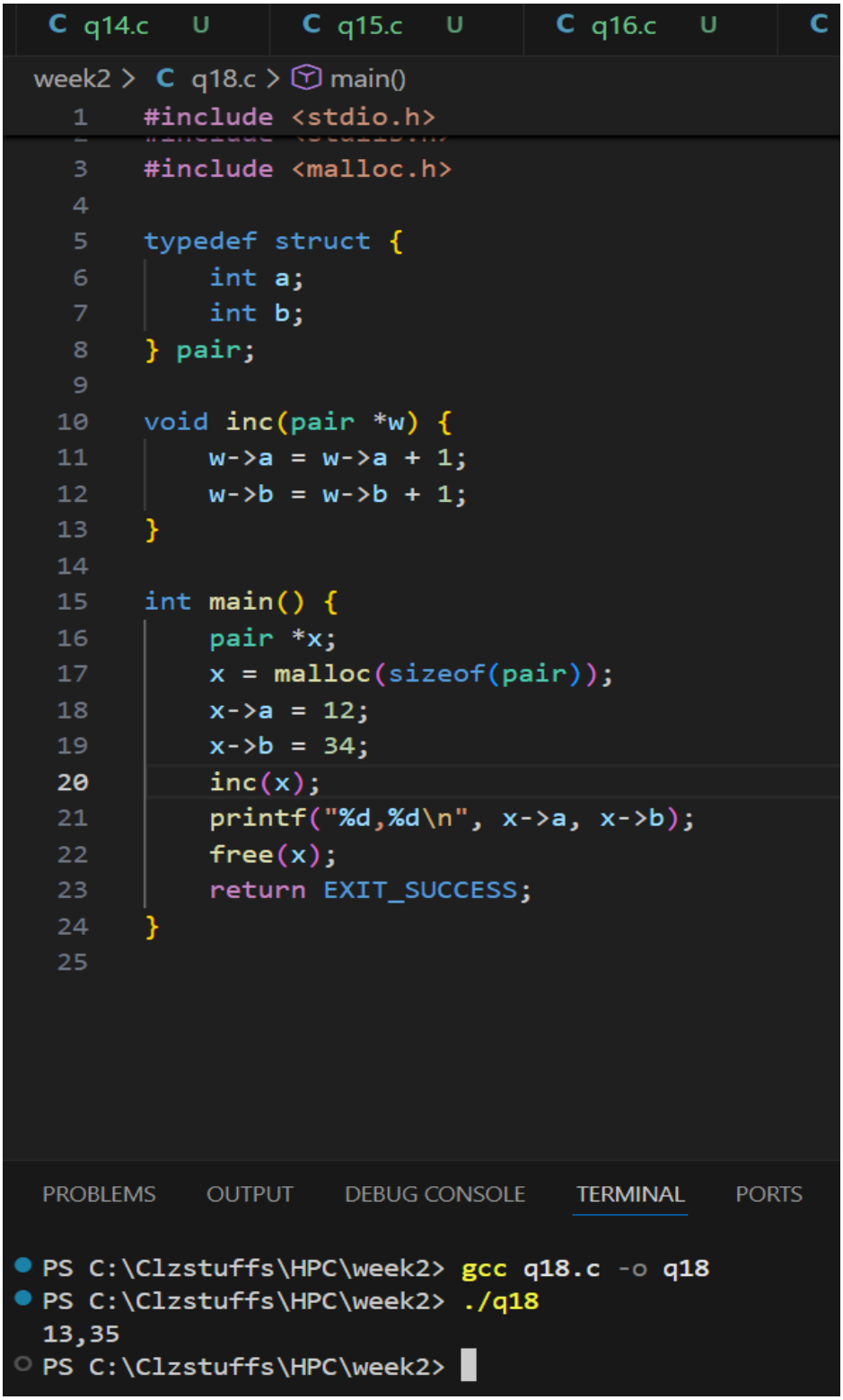
16.


C q12.c M
C q13.c U
C q14.c U
C q15.c U
week2 > C q16.c > ...
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 typedef struct {
5 int a;
6 int b;
7 } pair;
8
9 int main() {
10 pair x;
11 x.a = 12;
12 x.b = 34;
13 printf("%d,%d,%ld\n", x.a, x.b, sizeof(pair));
14 return EXIT_SUCCESS;
15 }
16
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> gcc q16.c -o q16
PS C:\Clzstuffs\HPC\week2> ./q16
12,34,8
PS C:\Clzstuffs\HPC\week2>

17.


q13.c U
q14.c U
q15.c U
q16.c
week2 > q17.c > main()
#include <stdio.h>
#include <stdlib.h>
typedef struct {
int a;
int b;
} pair;
void inc(pair *w) {
w->a = w->a + 1;
w->b = w->b + 1;
}
int main() {
pair x;
x.a = 12;
x.b = 34;
inc(&x);
printf("%d,%d\n", x.a, x.b);
return EXIT_SUCCESS;
}
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> gcc q17.c -o q17
PS C:\Clzstuffs\HPC\week2> ./q17
13,35
PS C:\Clzstuffs\HPC\week2>

18.


q14.c U
q15.c U
q16.c U
week2 > q18.c > main()
#include <stdio.h>
#include <malloc.h>
typedef struct {
int a;
int b;
} pair;
void inc(pair *w) {
w->a = w->a + 1;
w->b = w->b + 1;
}
int main() {
pair *x;
x = malloc(sizeof(pair));
x->a = 12;
x->b = 34;
inc(x);
printf("%d,%d\n", x->a, x->b);
free(x);
return EXIT_SUCCESS;
}
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> gcc q18.c -o q18
PS C:\Clzstuffs\HPC\week2> ./q18
13,35
PS C:\Clzstuffs\HPC\week2>

week2 > C q19.c > main()

```c
#include <stdio.h>
#include <stdlib.h>
#include <malloc.h>

int n = 10;

int main() {
    int i;
    int *x;

    x = malloc(sizeof(int) * n);

    printf("%ld\n", sizeof(x));
    printf("%ld\n", sizeof(*x));

    for(i = 0; i < n; i++) {
        x[i] = 2 * i;
    }

    for(i = 0; i < n; i++) {
        printf("%d,%d\n", i, x[i]);
    }

    free(x);
    return EXIT_SUCCESS;
}

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Clzstuffs\HPC\week2> gcc q19.c -o q19
PS C:\Clzstuffs\HPC\week2> ./q19
8
4
0,0
1,2
2,4
3,6
4,8
5,10
6,12
7,14
8,16
9,18
PS C:\Clzstuffs\HPC\week2>
```

20.

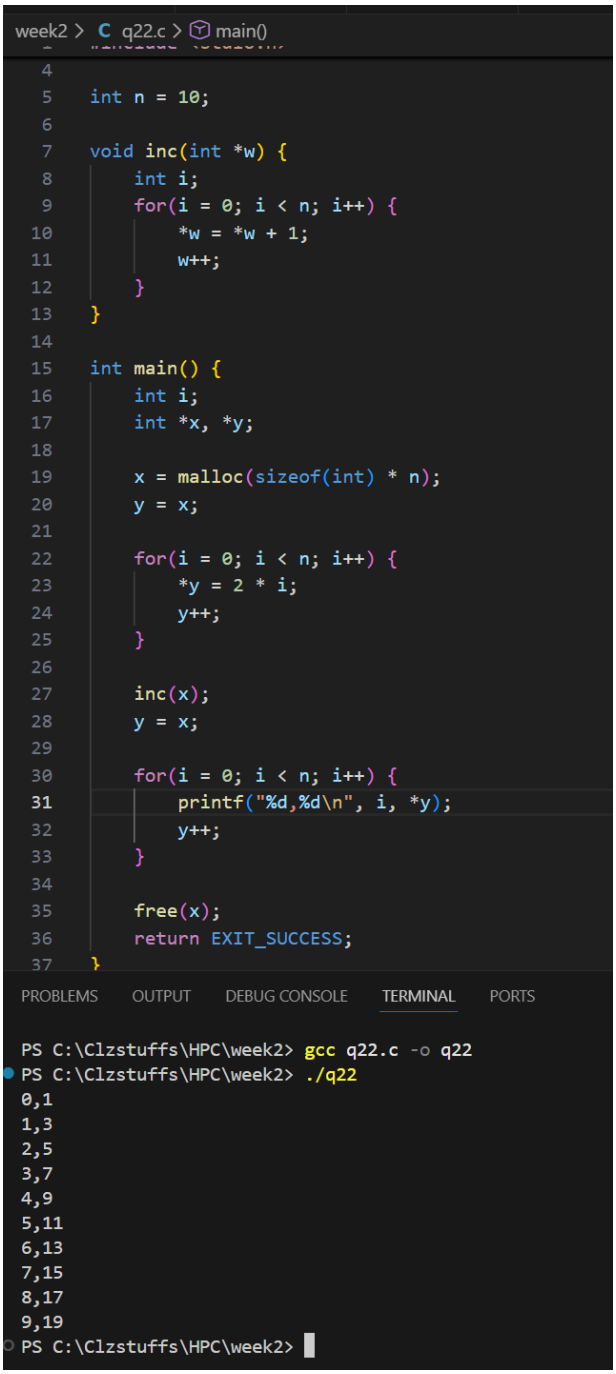
week2 > C q20.c > main()

```c
#include <stdio.h>
#include <stdlib.h>
#include <malloc.h>

int n = 10;

int main() {
    int i;
    int *x, *y;

    x = malloc(sizeof(int) * n);
    y = x;

    for(i = 0; i < n; i++) {
        *y = 2 * i;
        y++;
    }

    y = x;

    for(i = 0; i < n; i++) {
        printf("%d,%d\n", i, *y);
        y++;
    }

    free(x);
    return EXIT_SUCCESS;
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Clzstuffs\HPC\week2> gcc q20.c -o q20
PS C:\Clzstuffs\HPC\week2> ./q20
0,0
1,2
2,4
3,6
4,8
5,10
6,12
7,14
8,16
9,18
```


week2 > q21.c > main()
int n = 10;
void inc(int *w) {
int i;
for(i = 0; i < n; i++) {
w[i] = w[i] + 1;
}
}
int main() {
int i;
int *x, *y;
x = malloc(sizeof(int) * n);
y = x;
for(i = 0; i < n; i++) {
*y = 2 * i;
y++;
}
inc(x);
y = x;
for(i = 0; i < n; i++) {
printf("%d,%d\n", i, *y);
y++;
}
free(x);
return EXIT_SUCCESS;
}
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> gcc q21.c -o q21
PS C:\Clzstuffs\HPC\week2> ./q21
0,1
1,3
2,5
3,7
4,9
5,11
6,13
7,15
8,17
9,19
PS C:\Clzstuffs\HPC\week2>


week2 > C q22.c > main()
4
5 int n = 10;
6
7 void inc(int *w) {
8 int i;
9 for(i = 0; i < n; i++) {
10 *w = *w + 1;
11 w++;
12 }
13 }
14
15 int main() {
16 int i;
17 int *x, *y;
18
19 x = malloc(sizeof(int) * n);
20 y = x;
21
22 for(i = 0; i < n; i++) {
23 *y = 2 * i;
24 y++;
25 }
26
27 inc(x);
28 y = x;
29
30 for(i = 0; i < n; i++) {
31 printf("%d,%d\n", i, *y);
32 y++;
33 }
34
35 free(x);
36 return EXIT_SUCCESS;
37 }
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Clzstuffs\HPC\week2> gcc q22.c -o q22
PS C:\Clzstuffs\HPC\week2> ./q22
0,1
1,3
2,5
3,7
4,9
5,11
6,13
7,15
8,17
9,19
PS C:\Clzstuffs\HPC\week2>

23

week2 > C q24.c > output(int *)

```c

int n = 10;

void initialise(int *w) {
    int i;
    for(i = 0; i < n; i++) {
        *w = 2 * i;
        w++;
    }
}

void inc(int *w) {
    int i;
    for(i = 0; i < n; i++) {
        *w = *w + 1;
        w++;
    }
}

void output(int *w) {
    int i;
    for(i = 0; i < n; i++) {
        printf("%d,%d\n", i, w[i]);
    }
}

int main() {
    int *x;

    x = malloc(sizeof(int) * n);

    initialise(x);
    inc(x);
    output(x);

    free(x);
    return EXIT_SUCCESS;
}

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
4,9
5,11
5,11
6,13
7,15
8,17
9,19
PS C:\Clzstuffs\HPC\week2>
```