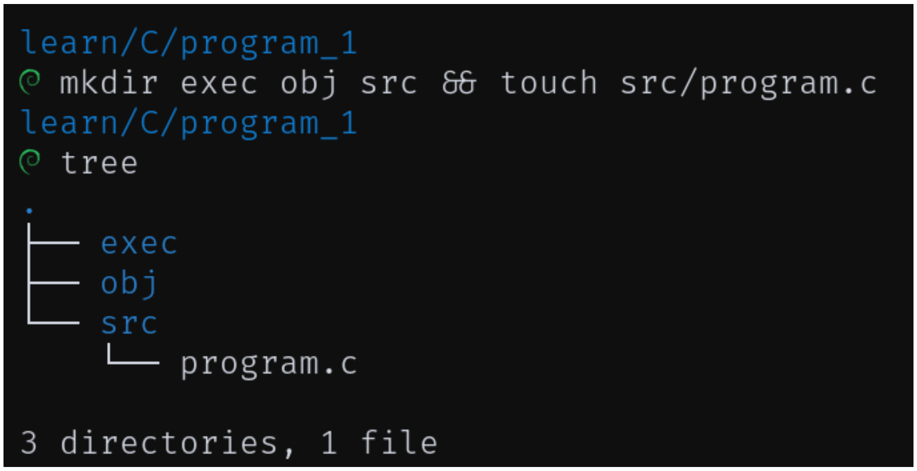
Write a simple code to get two variable one as integer and another as float. Display the given value as output also print the size of both the variables. Perform all stages of compilation process one by one (preprocessing, Compiling, assembling, linking).

Step 1 . Created the directory structure using following command

```
mkdir exec obj src && touch src/program.c
```



```
learn/C/program_1
@ mkdir exec obj src && touch src/program.c
learn/C/program_1
@ tree
.
├── exec
├── obj
└── src
    └── program.c

3 directories, 1 file
```

Step 2. code inside `program.c`

```
#include <stdio.h>

int main() {
  int intVar;
  float floatVar;

  // Input values
  printf("Enter an integer value: ");
  scanf("%d", &intVar);
  printf("Enter a float value: ");
  scanf("%f", &floatVar);
```

```
    // Display data type, size and value
    printf("\n--------------------------------\n");
    printf("|%6s | %10s | %10s| \n", "TYPE", "SIZE", "VALUE");
    printf("--------------------------------\n");
    printf("|%6s | %10zu | %10d |\n", "int", sizeof(intVar), intVar);
    printf("|%6s | %10zu | %10.2f |\n", "float", sizeof(floatVar), floatVar);
    printf("--------------------------------\n");

    return 0;
}
```

Step 3 . Preprocessing

```
gcc -E src/program.c -o obj/program.i
```

Or, we can use following command for preprocessing

```
cpp src/program.c -o obj/program.i
```

Step 4 . Compiling

```
gcc -S obj/program.i -o obj/program.s
```

Step 5. Assembling

```
gcc -c obj/program.s -o obj/program.o
```

Or, we can use following command for assembling

```
as obj/program.s -o exec/program
```

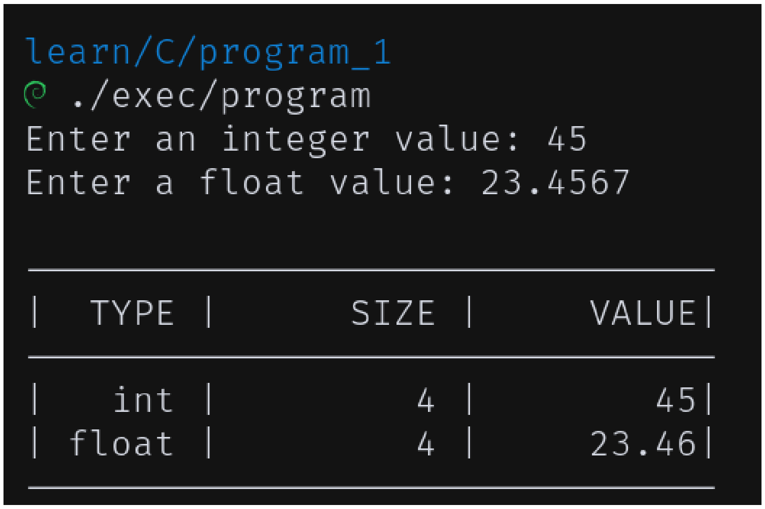
Step 6. Linking

gcc obj/program.o -o exec/program

Step 7. Running the program

./exec/program

Output



```
learn/C/program_1
  ./exec/program
Enter an integer value: 45
Enter a float value: 23.4567

───────────────────────────────
|  TYPE |        SIZE |     VALUE|
───────────────────────────────
|   int |           4 |        45|
| float |           4 |     23.46|
───────────────────────────────
```