

CSE 102 – HW07  
Gökhan Has – 161044067

## Part 1:

**1. Adım :** Dama oyunu için program ilk çalıştırıldığında bir menu açılır. Menude sample\_game\_1 ve sample\_game\_2 fonksiyonlarının seçenekleri bulunur. Hangisi seçilirse o fonksiyon çalıştırılır. 0 seçilirse program sonlanır.

The screenshot shows a dual-monitor setup. The left monitor displays a terminal window titled 'gokhan@HAS: ~/Desktop' with the following content:

```
File Edit View Search Terminal Help
gokhan@HAS:~$ cd Desktop
gokhan@HAS:~/Desktop$ gcc HW07_Gokhan_Has_161044067_part1.c -o hw07part1
gokhan@HAS:~/Desktop$ ./hw07part1

*****
1. sample_game_1
2. sample_game_2
3. Exit

What is your selection? 1
```

The right monitor displays a code editor titled 'HW07\_Gokhan\_Has\_161044067\_part1.c' with the following C code:

```
File Edit Selection Find View Goto Tools Project Preferences Help
HW07_Gokhan_Has_161044067_part1.c x
Line 15, Column 1
Tab Size: 4
C

/*
 * HW07_Gokhan_Has_161044067_part1.c - Sublime Text (UNREGISTERED)
 */

// Gokhan Has - 161044067
// CSE 102 - HW07 - parti

#include <stdio.h>

// **** Define Enum Types ****
typedef enum {
    white_man,
    black_man,
    white_king,
    black_king,
    empty
} piece;
typedef enum {
    white = 10,
    black = 20
} player;
// **** Define Functions ****
void init_board(piece board[1][8]);
int move(piece board[1][8], int arr[1][20], int from_x, int from_y, int to_x, int to_y, player p);
int move_control(piece board[1][8], player p, int from_x, int from_y, int arr[1][20], int newMove, int
int check_end_of_game(piece board[1][8]);
void display_board(piece board[1][8]);
void sample_game();
void sample_game_2();
void zeroArray(int arr[1][20]);
// ****
void init_board(piece board[1][8]){
    int i,j;
    piece new_board[1][8] = { (empty), (empty), (empty), (empty), (empty), (empty), (empty), (empty),
        (black man), (black man), (black man), (black man), (black man), (black man), (black
        (empty), (empty), (empty), (empty), (empty), (empty), (empty), (empty),
        (empty), (empty), (empty), (empty), (empty), (empty), (empty), (empty),
        (white man), (white man), (white man), (white man), (white man), (white
        (empty), (empty), (empty), (empty), (empty), (empty), (empty), (empty) };
    /* Oyunun baslangici icin fonksiyonu tanimlama. */
    for(i=0;i<8;i++)
}
```

**2. Adım :** Kullanıcı, 1'i seçtiğinde baştan başlayıp sonuna kadar giden bir oyн yazılmıştır. Terminale teker teker adımlar basıldığından biraz uzun olmuştur.

A screenshot of a Linux desktop environment. On the left is a dock with various icons, including a terminal, file manager, and system settings. The main window shows a terminal window titled 'gokhan@HAS: ~/Desktop' with the following content:

```
gokhan@HAS:~$ cd Desktop
gokhan@HAS:~/Desktop$ gcc HW07_gokhan_Has_161044067_part1.c -o hw07part1
gokhan@HAS:~/Desktop$ ./hw07part1

*****
1. sample_game_1
2. sample_game_2
0. Exit

What is your selection? 1
*****
-----
bbbbbbbb
bbbbbbbb
-----
wwwwwwww
wwwwwwww
-----
Game Continues...
-----
bbbbbbbb
bbbbbbbb
```

Next to it is a Sublime Text editor window titled 'HW07\_Gokhan\_Has\_161044067\_part1.c' with the following code:

```
HW07_Gokhan_Has_161044067_part1.c x
1 // Gokhan Has - 161044067
2 // CSE 102 - HW07 - part1
3
4 #include <stdio.h>
5
6 // **** Define Enum Types ****
7
8 typedef enum {
9     white_man,
10    black_man,
11    white_king,
12    black_king,
13    empty
14 } piece;
15
16 typedef enum {
17     white = 10,
18     black = 20
19 } player;
20
21
22 // **** Define Functions ****
23
24
25
26 void init_board(piece board[][8]);
27 int move_piece(board[][8],int arr[][20], int from_x, int from_y, int to_x, int to_y, player p);
28 int move_control(piece board[][8],player p,int from_x,int from_y, int arr[][20],int newMove,int
29 int check_end (piece board[][8]);
30 void display_board(piece board[][8]);
31 void sample_game_1();
32 void sample_game_2();
33 void zeroArray(int arr[][20]);
34
35
36
37
38 // ****
39
40
41
42 void init_board(piece board[][8]){
43
44     int i,j;
45     piece new_board[][8] = { (empty),(empty),(empty),(empty),(empty),(empty),
46                             (empty),(empty),(empty),(empty),(empty),(empty),
47                             (black_man),(black_man),(black_man),(black_man),(black_
48                             (empty),(empty),(empty),(empty),(empty),(empty),
49                             (empty),(empty),(empty),(empty),(empty),(empty),
50                             (white_man),(white_man),(white_man),(white_man),(white_
51                             (white man),(white man),(white man),(white man),(white_
52                             (empty),(empty),(empty),(empty),(empty),(empty),
53
54 /* Oyunun baslangici icin fonksiyonu taramlama. */
55 for(i=0;i<8;i++){}
```

The status bar at the bottom indicates 'Paz 12:22' and 'Line 15, Column 1'. A small note in the bottom right corner says 'Tab Size: 4'.

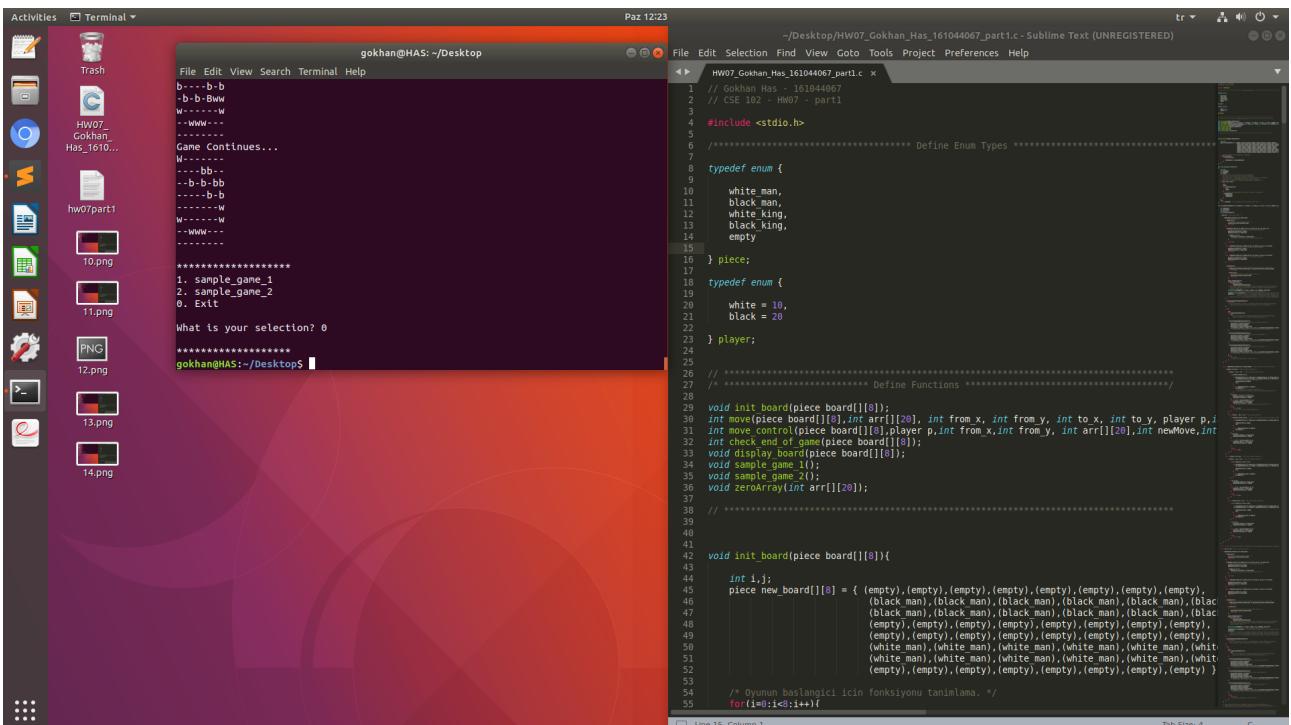
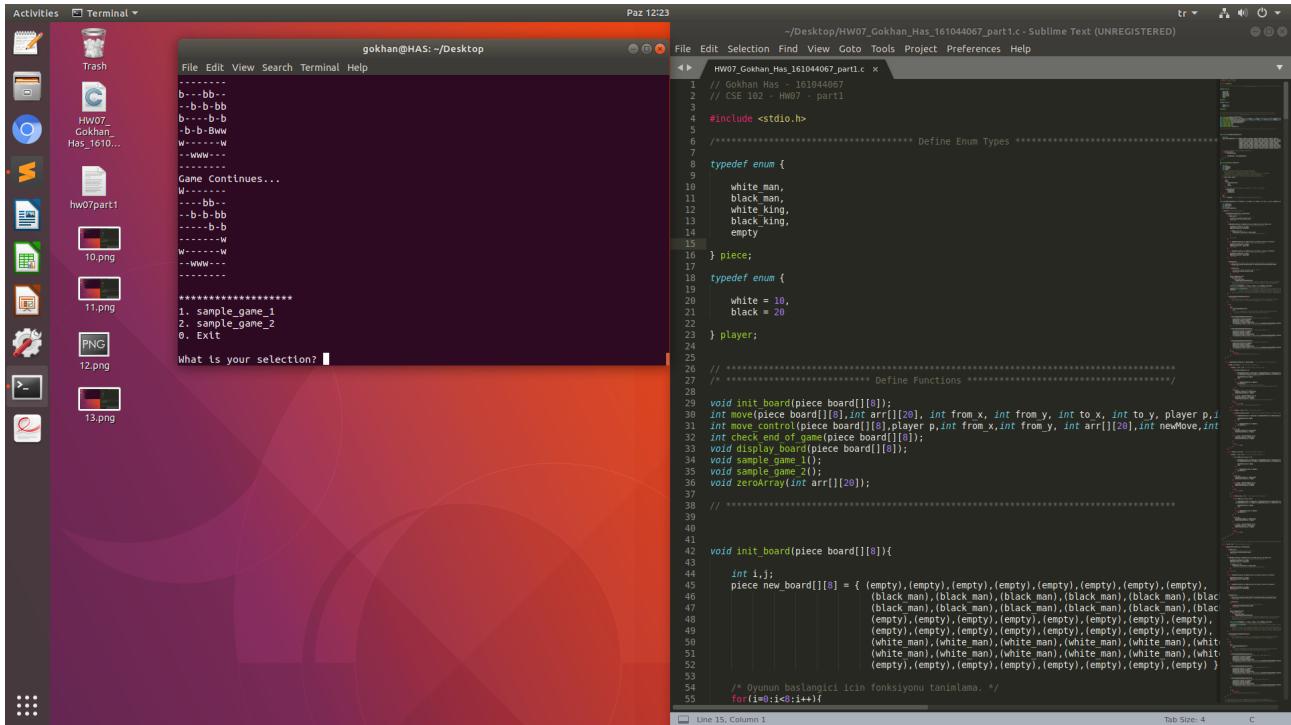
**3. Adım :** Seçili fonksiyon çalıştırıldıktan sonra program tekrar menüyü basar. Bu sefer 2'nin seçildiği varsayılmıştır.

The screenshot shows a Linux desktop environment with a dark theme. On the left is a dock with icons for various applications like a text editor, file manager, and terminal. A terminal window titled 'gokhan@HAS: ~/Desktop' is open, displaying a menu with options: 1. sample\_game\_1, 2. sample\_game\_2, 0. Exit. The user has selected option 2, which is 'sample\_game\_2'. Below the menu, the terminal shows a chessboard representation and the message 'Winner : Black'. To the right of the terminal is a code editor window titled 'HW07\_Gokhan\_Has\_161044067\_part1.c - Sublime Text (UNREGISTERED)'. The code is a C program for a chess game, defining piece types (white, black, king, etc.) and board manipulation functions. The code editor has syntax highlighting and a sidebar with file navigation.

**4. Adım :** Ödevin pdfinde bulunan gifteki oyun çalıştırılır.Teker teker hamleleri terminale yazar.

This screenshot is similar to the previous one, showing the same desktop environment and application arrangement. The terminal window now displays the output of the chess game. It shows the initial board state with 'Game Continues...', followed by several moves: 'w-wwww-ww', 'bb-b-b-b', 'bb-b-b-b', 'w-wwww-ww', and 'Game Continues...'. The code editor window remains visible on the right side of the screen.

**5. Adım :** O fonksiyonda bittikten sonra tekrar menu sorulur.Ve kullanıcı 0 girdiğinde program kapanır.



## Part 2:

**1. Adım :** Program ilk çalıştırıldığında bir menu gelir. Menude 1. seçenek printDates'dır. 2. seçenek printWeekday'dır ve son seçenek ise çıkış anlamına gelen 0'dır.Kullanıcı 1.seçeneği seçmiş ve ilk tarihle son tarihi resimdeki gibi bir düzende giremiştir.

The screenshot shows a Linux desktop environment with a red and orange gradient background. On the left is a vertical dock containing icons for various applications like a text editor, file manager, and terminal. In the center, there's a terminal window titled 'gokhan@HAS: ~/Desktop' with the command 'gcc HW07\_Gokhan\_Has\_161044067.c -o test' and its output. Below the terminal is a small window titled 'gokhan@HAS: ~/Desktop' showing a menu with options 1, 2, and 0. To the right is a code editor window titled 'HW07\_Gokhan\_Has\_161044067.c - Sublime Text (UNREGISTERED)' displaying the C code for the program.

```
1 // Gokhan Has - 161044067
2 // CSE 102 - Hw07 - part2
3
4 #include <stdio.h>
5
6 /* Define Functions */
7 void printDates();
8 void printWeekday();
9
10 int main(){
11     int selection;
12     int control = 1;
13     /* Menu. If user's select 1 --> calling function 1.
14      If user's select 2 --> calling function 2.
15      and selected 0 is exit. */
16     do{
17
18         printf("*****\n");
19         printf("1. PrintDates\n");
20         printf("2. PrintWeekday\n");
21         printf("0. Exit\n");
22         Enter a number > 1
23         Enter first date (dd/MM/yy format) > 05/05/2015
24         Enter last date (dd/MM/yy format) > 23/04/2018
25
26     } while(control != 0);
27
28     void printDates(){
29
30         FILE *fp;
31         int month,year,day,numDays,control = 1,control2=1;
32         int start_day,start_month,start_year;
33         int finish_day,finish_month,finish_year;
34         char ch;
35
36         printf("Enter first date (dd/MM/yy format) > "); scanf("%d/%d/%d",&start_day,&ch,&start_m
37         printf("Enter last date (dd/MM/yy format) > "); scanf("%d/%d/%d",&finish_day,&ch,&finish
38         /* Entering first and last date. Format is dd/MM/yy. Ex: 05/01/2015 (enter \n) 23/04/2018 (e
39
40         fp = fopen("input_date.txt","w"); /* Creating file */
41
42         day= start_day;
43         month = start_month;
44         year = start_year;
45
46         while(control != 0){
47
48             month % 12;
49             if(month == 0)
50
51
52
53
54             month %= 12;
55             if(month == 0)
```

Entera basıldıktan sonra eğer program düzgün çalışmış ise OK.. ekrana basılır ve seçili dizinde bir input\_date.txt dosyası oluşturulur.

The screenshot shows a Linux desktop environment with a red and orange gradient background. On the left is a vertical dock containing icons for various applications like a text editor, file manager, and terminal. In the center, there's a terminal window titled 'gokhan@HAS: ~/Desktop' with the command 'gcc HW07\_Gokhan\_Has\_161044067.c -o test' and its output. Below the terminal is a small window titled 'gokhan@HAS: ~/Desktop' showing a menu with options 1, 2, and 0. To the right is a code editor window titled 'HW07\_Gokhan\_Has\_161044067.c - Sublime Text (UNREGISTERED)' displaying the C code for the program. A file named 'input\_date.txt' is visible in the dock.

```
1 // Gokhan Has - 161044067
2 // CSE 102 - Hw07 - part2
3
4 #include <stdio.h>
5
6 /* Define Functions */
7 void printDates();
8 void printWeekday();
9
10 int main(){
11     int selection;
12     int control = 1;
13     /* Menu. If user's select 1 --> calling function 1.
14      If user's select 2 --> calling function 2.
15      and selected 0 is exit. */
16     do{
17
18         printf("*****\n");
19         printf("1. PrintDates\n");
20         printf("2. PrintWeekday\n");
21         printf("0. Exit\n");
22         Enter a number > 1
23         Enter first date (dd/MM/yy format) > 05/05/2015
24         Enter last date (dd/MM/yy format) > 23/04/2018
25         OK...
26
27         ******
28         1. PrintDates
29         2. PrintWeekday
30         0. Exit
31         Enter a number > 1
32
33     } while(control != 0);
34
35     void printDates(){
36
37         FILE *fp;
38         int month,year,day,numDays,control = 1,control2=1;
39         int start_day,start_month,start_year;
40         int finish_day,finish_month,finish_year;
41         char ch;
42
43         printf("Enter first date (dd/MM/yy format) > "); scanf("%d/%d/%d",&start_day,&ch,&start_m
44         printf("Enter last date (dd/MM/yy format) > "); scanf("%d/%d/%d",&finish_day,&ch,&finish
45         /* Entering first and last date. Format is dd/MM/yy. Ex: 05/01/2015 (enter \n) 23/04/2018 (e
46
47         fp = fopen("input_date.txt","w"); /* Creating file */
48
49         day= start_day;
50         month = start_month;
51         year = start_year;
52
53         while(control != 0){
54
55             month % 12;
56             if(month == 0)
```

```

Activities Terminal ✓ 21:06
~/Desktop/HW07_Gokhan_Has_161044067.c - Sublime Text (UNREGISTERED)
File Edit View Search Terminal Help
gokhan@HAS:~/Desktop$ gcc HW07_Gokhan_Has_161044067.c -o test
gokhan@HAS:~/Desktop$ ./test
*****
1. PrintDates
2. PrintWeekday
0. Exit
Enter a number > 1
Enter first date (dd/MM/yy format) > 05/05/2015
Enter last date (dd/MM/yy format) > 23/04/2018
OK...
*****
1. PrintDates
2. PrintWeekday
0. Exit
Enter a number > 1

printDates(){

FILE *fp;
int month,year,day,numDays,control = 1,control2=1;
int start_day,start_month,start_year;
int finish_day,finish_month,finish_year;
char ch;

scanf("Enter first date (dd/MM/yy format) >"); scanf("%d%d%d",&start_day,&ch,&start_m
44   int year;
45   fp = fopen("input_date.txt","w"); /* Creating file */
46   /* Entering first and last date. Format is dd/MM/yy. Ex: 05/01/2015 (enter \n) 23/04/2018 (
47   /* Entering first and last date. Format is dd/MM/yy. Ex: 05/01/2015 (enter \n) 23/04/2018 (
48   day = start_day;
49   month = start_month;
50   year = start_year;
51
52   while(control != 0){
53       month += 12;
54       if(month == 0)
55
Line 3, Column 1
Plain Text Tab Width: 8 Ln 1, Col 1 INS Tab Size: 4 C

```

input\_date.txt'in içi

```

Activities Text Editor ✓ 21:07
~/Desktop/HW07_Gokhan_Has_161044067.c - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help
gokhan@HAS:~/Desktop$ gcc HW07_Gokhan_Has_161044067.c -o test
gokhan@HAS:~/Desktop$ ./test
*****
1. PrintDates
2. PrintWeekday
0. Exit
Enter a number > 1
first date (dd/MM/yy format) > 05/05/2015
last date (dd/MM/yy format) > 23/04/2018
OK...
*****
1. PrintDates
2. PrintWeekday
0. Exit
Enter a number > 1

printDates(){

FILE *fp;
int month,year,day,numDays,control = 1,control2=1;
int start_day,start_month,start_year;
int finish_day,finish_month,finish_year;
char ch;

scanf("Enter first date (dd/MM/yy format) >"); scanf("%d%d%d",&start_day,&ch,&start_m
44   int year;
45   fp = fopen("input_date.txt","w"); /* Creating file */
46   /* Entering first and last date. Format is dd/MM/yy. Ex: 05/01/2015 (enter \n) 23/04/2018 (
47   /* Entering first and last date. Format is dd/MM/yy. Ex: 05/01/2015 (enter \n) 23/04/2018 (
48   day = start_day;
49   month = start_month;
50   year = start_year;
51
52   while(control != 0){
53       month += 12;
54       if(month == 0)
55
Line 3, Column 1
Plain Text Tab Width: 8 Ln 1, Col 1 INS Tab Size: 4 C

```

**2. Adım :** Program tekrar menüyü sorar ve kullanıcının 2. seçeneği seçtiği varsayılmıştır. 2 girilerek entera basılır ve eğer program düzgün yazılmış ise OK.. ekrana basılır.

```
gokhan@HAS: ~/Desktop
File Edit View Search Terminal Help
gokhan@HAS:~/Desktop$ gcc HW07_Gokhan_Has_161044067.c -o test
gokhan@HAS:~/Desktop$ ./test
*****
1. PrintDates
2. PrintWeekday
0. Exit
Enter a number > 1
Enter first date (dd/MM/yy format) > 05/05/2015
Enter last date (dd/MM/yy format) > 23/04/2018
OK...
*****
1. PrintDates
2. PrintWeekday
0. Exit
Enter a number > 2
OK...
*****
1. PrintDates
2. PrintWeekday
0. Exit
Enter a number > 0
```

```
1 // Gokhan Has - 161044067
2 // CSE 102 - HW07 - part2
3
4 #include <stdio.h>
5
6 /* Define Functions */
7 void printDates();
void printWeekday();
```

```
int main(){
    int selection;
    int control = 1;
    /* Menu. If user's select 1 --> calling function 1.
     * If user's select 2 --> calling function 2.
     * and selected 0 is exit. */
    do{
        printf("*****\n");
        printf("1. PrintDates\n");
        printf("2. PrintWeekday\n");
        printf("0. Exit\n");
        printf("Enter a number > ");
        scanf("%d",&selection);
        switch(selection){
            case 1: printDates(); printf("OK...\n\n"); break;
            case 2: printWeekday(); printf("OK...\n\n"); break;
            case 0: control = 0; printf("Exiting...\n"); break;
        }
    } while(control != 0);
}

void printDates(){
FILE *fp;
int month,year,day,numDays,control = 1,control2=1;
int start_day,start_month,start_year;
int finish_day,finish_month,finish_year;
char ch;
fp = fopen("input_date.txt","w"); /* Creating file */
printf("Enter first date (dd/MM/yy format) > ");
scanf("%d%d%d",&start_day,&ch,&start_m);
printf("Enter last date (dd/MM/yy format) > ");
scanf("%d%d%d",&finish_day,&ch,&finish_y);
/* Entering first and last date. Format is dd/MM/yy. Ex: 05/01/2015 (enter \n) 23/04/2018 (\n)
   day= start_day;
month = start_month;
year = start_year;
*/
while(control != 0){
    month += 12;
    if(month == 0)
```

new\_date.txt seçili dizinde oluşturulur. Resimde desktop dizininde olduğunda o dizinde dosyanın olduğu görülmektedir.

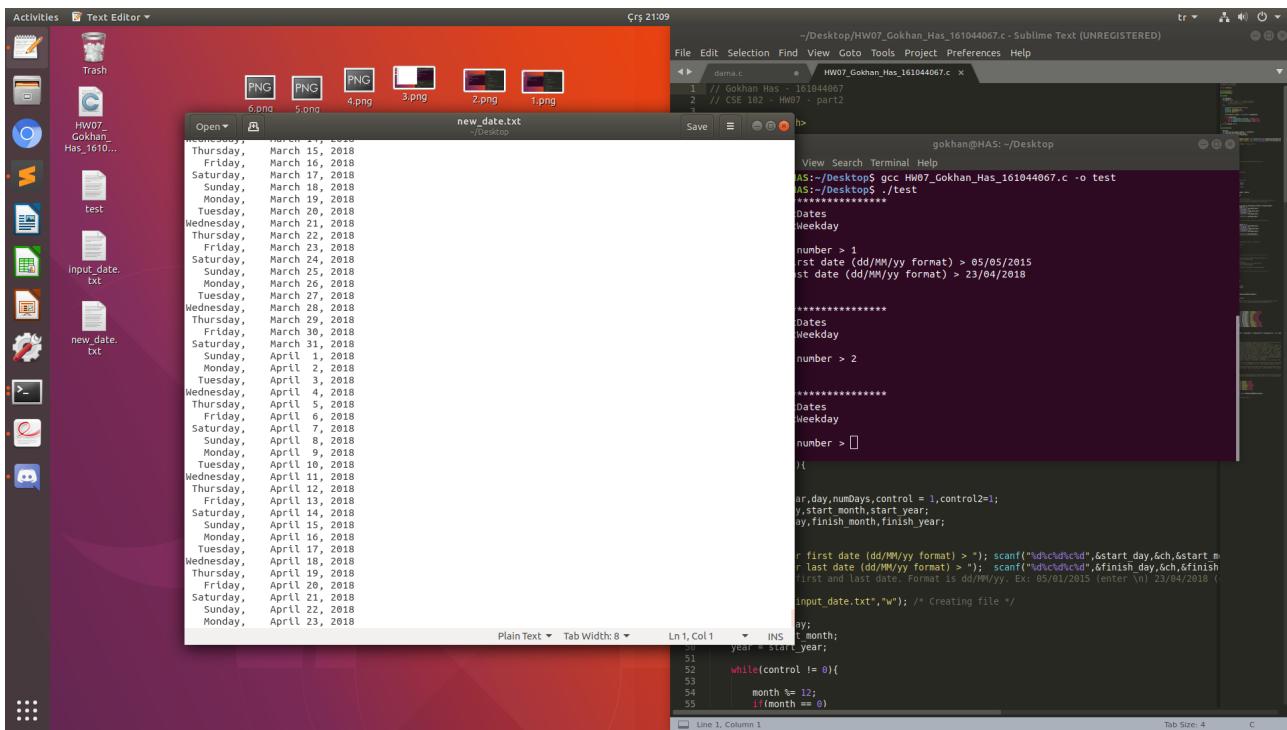
```
new_date.txt
File Edit Selection Find View Goto Tools Project Preferences Help
gokhan@HAS: ~/Desktop
File Edit Selection Find View Goto Tools Project Preferences Help
HW07_Gokhan_Has_161044067.c - Sublime Text (UNREGISTERED)
Edit View Search Terminal Help
gokhan@HAS:~/Desktop$ gcc HW07_Gokhan_Has_161044067.c -o test
gokhan@HAS:~/Desktop$ ./test
*****
1. PrintDates
2. PrintWeekday
0. Exit
Enter a number > 1
Enter first date (dd/MM/yy format) > 05/05/2015
Enter last date (dd/MM/yy format) > 23/04/2018
...
*****
1. PrintDates
2. PrintWeekday
0. Exit
Enter a number > 2
...
*****
1. PrintDates
2. PrintWeekday
0. Exit
Enter a number > 0
```

```
1 // Gokhan Has - 161044067
2 // CSE 102 - HW07 - part2
3
4 #include <stdio.h>
5
6 /* Define Functions */
7 void printDates();
void printWeekday();
```

```
int main(){
    int selection;
    int control = 1;
    /* Menu. If user's select 1 --> calling function 1.
     * If user's select 2 --> calling function 2.
     * and selected 0 is exit. */
    do{
        printf("*****\n");
        printf("1. PrintDates\n");
        printf("2. PrintWeekday\n");
        printf("0. Exit\n");
        printf("Enter a number > ");
        scanf("%d",&selection);
        switch(selection){
            case 1: printDates(); printf("OK...\n\n"); break;
            case 2: printWeekday(); printf("OK...\n\n"); break;
            case 0: control = 0; printf("Exiting...\n"); break;
        }
    } while(control != 0);
}

void printDates(){
FILE *fp;
int month,year,day,numDays,control = 1,control2=1;
int start_day,start_month,start_year;
int finish_day,finish_month,finish_year;
char ch;
fp = fopen("input_date.txt","w"); /* Creating file */
printf("Enter first date (dd/MM/yy format) > ");
scanf("%d%d%d",&start_day,&ch,&start_m);
printf("Enter last date (dd/MM/yy format) > ");
scanf("%d%d%d",&finish_day,&ch,&finish_y);
/* Entering first and last date. Format is dd/MM/yy. Ex: 05/01/2015 (enter \n) 23/04/2018 (\n)
   day= start_day;
month = start_month;
year = start_year;
*/
while(control != 0){
    month += 12;
    if(month == 0)
```

new\_date.txt dosyasının içi



**3. Adım :** Son olarak menude 0 girildiğinde programdan çıkış yapılır.

