```
/*############################################################################*/
/*HW03_part1.c                                                                */
/*_____________________________                                               */
/*Written by Mustafa Akilli on March 8, 2015                                  */
/*                                                                            */
/*Description                                                                 */
/*___________                                                                 */
/*  Guessing An Integer Number                                                */
/*Inputs:                                                                     */
/*  -Guess number                                                             */
/*Outputs:                                                                    */
/*  -Number of guesses                                                        */
/*############################################################################*/
/*                                                                            */
/*----------------------------------------------------------------------------*/
/*                          Includes                                          */
#include <stdio.h>
#include <stdlib.h>
/*----------------------------------------------------------------------------*/

#define MOD 10
#define ONE 1
#define BIGGER_THAN_FIVE 5
#define BIGGER_THAN_THREE 3
#define BIGGER_THAN_ONE 1

    /*To generate the random number */
    double RNG();
    /*To calculate the difference between guess and the number */
    double CalculateTheDifference(int random_number, int guess_number);
    /*To print a warning in order to guide the player */
    double warn_the_player(int difference);

int
main(void){

    /*variables*/
    int random_number, guess_number, difference, warn,number_of_guesses;
    char play_or_exit;
    int infinite=1;



    /*ask to player whether she wants to play or exit*/
    printf("What do you want? Play(P or p) or Exit(E or e)\n");
    scanf(" %c",&play_or_exit);

    /*İf player want exit*/
    if(play_or_exit == 'E' || play_or_exit == 'e'){

        printf("Bye Bye\n");
        return 0;
    }

    /*if player give invalid value*/
    while(play_or_exit != 'P' && play_or_exit != 'p'){


        printf("invalid value.\n");
        printf("What do you want? Play(P or p) or Exit(E or e)\n");
        scanf(" %c",&play_or_exit);

        if(play_or_exit == 'E' || play_or_exit == 'e'){

            printf("Bye Bye\n");
            return 0;
        }
    }

    while(infinite = ONE){

        number_of_guesses=1;    /*Number of guesses to reset*/
```

```
        /*To generate the random number*/
        random_number = RNG();

        /*get input from user*/
        printf("Please Guess the number to between 1-10:");
        scanf("%d",&guess_number);

        /*To calculate the difference between guess and the number*/
        difference = CalculateTheDifference(random_number, guess_number);

        /*To print a warning in order to guide the player*/
        warn = warn_the_player(difference);

        /*Give to another chance to player until player win*/
        while(random_number != guess_number){

            scanf("%d",&guess_number);
            difference = CalculateTheDifference(random_number, guess_number);
            warn = warn_the_player(difference);
            ++number_of_guesses;

        }

        /*Congratulation to player if player win*/
        printf("Congratulation you find the number...\n");
        printf("Number of Guesses : %d\n", number_of_guesses);

        /*again ask to player whether she wants to play or exit*/
        printf("What do you want? Play(P or p) or Exit(E or e)\n");
        scanf(" %c",&play_or_exit);

        /*İf player want exit*/
        if(play_or_exit == 'E' || play_or_exit == 'e'){

        printf("Bye Bye\n");
        return 0;
        }

        /*if player give invalid value*/
        while(play_or_exit != 'P' && play_or_exit != 'p'){


            printf("invalid value.\n");
            printf("What do you want? Play(P or p) or Exit(E or e)\n");
            scanf(" %c",&play_or_exit);

        if(play_or_exit == 'E' || play_or_exit == 'e'){

            printf("Bye Bye\n");
            return 0;
        }
        }
    }
}


    /*To generate the random number*/
double RNG(){

    int number_random;
    srand(time(NULL));
    number_random = rand ()%MOD+ONE;
    return number_random;
    }


    /*To calculate the difference between guess and the number*/
double CalculateTheDifference(int random_number, int guess_number){

    int difference;
```

```
    if(guess_number>random_number){

        difference = guess_number-random_number;
    }

    else{

        difference = random_number-guess_number;
    }

    return difference;
    }

    /*To print a warning in order to guide the player*/
double warn_the_player(int difference){


    if(difference>= BIGGER_THAN_FIVE){

        printf("You are too far from the number\n");
        printf("please try again:");
    }

    else if(difference>= BIGGER_THAN_THREE){

        printf("You are far from the number\n");
        printf("please try again:");
    }

    else if(difference>= BIGGER_THAN_ONE){

        printf("You are close to the number\n");
        printf("please try again:");
    }

}

/*##############################################################################*/
/*                            End of HW03_part1.c                               */
/*##############################################################################*/
```