Problem - A furniture renting store has asked you to create a program that calculates the rental costs. The store rents several types of furniture. Furniture is rented monthly.

1. A minimum fee (usually higher than monthly cost) is charged for the first month.
2. After the first month, the store charges a monthly rental fee.
3. There is a maximum charge for any given year.
4. The program takes furniture selection and number of months as input. It calculates and prints the charge.
5. Input validation: the program validates the input for furniture selection (1-5) and numbers of months (greater than 0). If any of the two inputs is invalid, the program print a message and exit.

Furniture	First Month (minimum)	Monthly Cost after the First Month	Maximum per Year
Sofa	$60	$45	$450
Loveseat	$45	$30	$280
4 Post Bed	$55	$38	$350
Dresser	$28	$25	$200
Kitchen Table	$35	$20	$220

An example input/output:

```
Please select from the following menu: 1. Sofa, 2.
Loveseat, 3. 4 Post Bed, 4. Dresser 5. Kitchen
Table

Enter furniture selection: 1
Enter months rented: 3
Amount due ($): 150
```

Problem – Tracking Comet Halley

Comet Halley is visible to the naked eye from Earth every 76 years. Its last appearance was in 1986. Given any year after 1986 as input, can you compute the next time Halley will be seen again? If Halley is visible in the given year, please provide the next one.

1. The program takes a given year as input. It computes the next appearance year and prints the obtained value.
2. The program cannot use loops (for, while, do/while) to accomplish the described task.
3. Input validation: the program validates the input year. If the value is smaller than or equal to 1986, the program prints a message and exits.

Hint: use integer division to discover how many times Comet Halley was seen since

1986. **Example #1:**

```
Enter year: 2021
Next appearance: 2062
```

Example #2:

```
Enter year: 2061
Next appearance: 2062
```

Example #3:

```
Enter year: 2062
Next appearance: 2138
```

Other requirements and submission:

1. Program names:
   project1_furniture.c
   project1_halley.c

2. Compile on ***student cluster (sc.rc.usf.edu)***.

   gcc –Wall project1_furniture.c
   gcc –Wall project1_halley.c

3. Change Unix file permission on Unix:

chmod 600 project1_furniture.c
chmod 600 project1_halley.c

4. Test your program with the shell script

chmod +x try_project1_furniture
./try_project1_furniture

chmod +x try_project1_halley
./try_project1_halley