

Assignment 7

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1. Write a program to create a dictionary containing names of competition winner students as keys and number of their wins as values.

```
In [ ]: # Akash Duttachowdhury | 21052386
n = int(input("Enter total no. of students: "))
wins_log = {}
for i in range(n):
    name = input("Enter student's name: ")
    wins = int(input("Enter no. of wins: "))
    wins_log[name] = wins
print(f"Dictionary Created: {wins_log}")
```

Dictionary Created: {'Akash': 12, 'Ravi': 8, 'Oppenheimer': 2}

2. Write a program to create a phone directory for all your friends and then print it.

```
In [ ]: # Akash Duttachowdhury | 21052386
n = int(input("Enter no. of friends: "))
phonebook = {}
for i in range(n):
    name = input("Enter contact name: ")
    phone = int(input("Enter phone no.: "))
    phonebook[name] = phone
print(f"Contacts: {phonebook}")
```

Contacts: {'A': 123456789, 'B': 43646779867, 'C': 234567123}

3. Marks of three students 'Suniti', 'Ryna', and 'ziva' in 3 subjects are available in dictionary.

D1 = {1:40, 2:70, 3:70}

D2 = {1:40, 2:50, 3:60}

D3 = {1:70, 2:80, 3:90}

Sample Output:

Key Value

Ryna {1:40, 2:50, 3:60}

Subject(Key) Marks(Value)

1 40

2 50

3 60**Find the highest mark in subject 3.**

```
In [ ]: # Akash Duttachowdhury | 21052386
D1 = {1: 40, 2: 70, 3: 70}
D2 = {1: 40, 2: 50, 3: 60}
D3 = {1: 70, 2: 80, 3: 60}
main_dict = {
    'Suniti': D1,
    'Ryna': D2,
    'Ziva': D3
}
flat_dict = {subkey: value for inner_dict in main_dict.values() for subkey, value in inner_dict.items()}
max_key = max(flat_dict, key=flat_dict.get)
max_value = flat_dict[max_key]

print(f"The key with the highest value is '{max_key}' with a value of {max_value}")
```

The key with the highest value is '2' with a value of 80.

4. Create a dictionary whose keys are month names and whose values are the number of days in the corresponding months.

a) Ask the user to enter a month name and use the dictionary to tell them how many days are in the month.

```
In [ ]: # Akash Duttachowdhury | 21052386
year = {
    'january': 31,
    'february': 28, #leap year not considered
    'march': 31,
    'april': 30,
    'may': 31,
    'june': 30,
    'july': 31,
    'august': 31,
    'september': 30,
    'october': 31,
    'november': 30,
    'december': 31
}
month = input("Enter a month: ").lower()
print(f"The no. of days in {month} are {year[month]}")
```

The no. of days in january are 31

b) Print out all the keys in alphabetical order.

```
In [ ]: # Akash Duttachowdhury | 21052386
year = {
    'january': 31,
    'february': 28, #leap year not considered
    'march': 31,
```

```

    'april': 30,
    'may': 31,
    'june': 30,
    'july': 31,
    'august': 31,
    'september': 30,
    'october': 31,
    'november': 30,
    'december': 31
}
lst = list(year.keys())
lst.sort()
print(lst)

```

```
['april', 'august', 'december', 'february', 'january', 'july', 'june', 'march', 'may', 'november', 'october', 'september']
```

c) Print out all of the month with 31 days.

```

In [ ]: # Akash Duttachowdhury | 21052386
year = {
    'january': 31,
    'february': 28, #leap year not considered
    'march': 31,
    'april': 30,
    'may': 31,
    'june': 30,
    'july': 31,
    'august': 31,
    'september': 30,
    'october': 31,
    'november': 30,
    'december': 31
}
for month in year:
    if year[month] == 31:
        print(month)

```

```

january
march
may
july
august
october
december

```

d) Print out the (key value) pairs started by the number of days in each month.

```

In [ ]: # Akash Duttachowdhury | 21052386
year = {
    'january': 31,
    'february': 28, #leap year not considered
    'march': 31,
    'april': 30,

```

```

'may': 31,
'june': 30,
'july': 31,
'august': 31,
'september': 30,
'october': 31,
'november': 30,
'december': 31
}
print('february')
for month in year:
    if year[month] == 30:
        print(month)
    if year[month] == 31:
        print(month)

```

february
 january
 march
 april
 may
 june
 july
 august
 september
 october
 november
 december

- 5. Repeatedly ask the user to enter a team name and how many games the team has won and how many they lost. Store this information in a dictionary where the keys are the team names and the values are list of the form [wins, losses]**
- a) Using the dictionary created above, allow the user to enter a team name and print out the team's winning percentage.**
- b) Using the dictionary, create a list whose entries are the number of wins of each team.**
- c) Using the dictionary, create a list of all those teams that have winning records.**

```

In [ ]: # Akash Duttachowdhury | 21052386
n = int(input('Enter the no. of teams: '))
teams = {}
for i in range(n):
    name = input("Enter team name: ")
    wins = int(input("Enter no. of wins: "))
    losses = int(input("Enter no. of losses: "))
    teams[name] = [wins, losses]

team = input("Enter team name: ")
print(f"Winning % of {team} is {(teams[team][0] / sum(teams[team])) * 100}

```

```
win_team = [team[0] for team in teams.values()]
print(f"No. of wins of each team: {win_team}")

win_record = []
for team in teams:
    if teams[team][0] > 0:
        win_record.append(i)
print(f"Winning records {win_record}")
```

Winning % of C is 100.0

No. of wins of each team: [1, 3, 6]

Winning records [2, 2, 2]