ss-2-pwskills-dsm-e-implementation

January 31, 2023

1 ALL APPLICATIONS GIVEN HERE ARE DERIVED BASED ON FIRST 2 DATA SCIENCE MASTERS CLASSES (ENGLISH BATCH) PWSKILLS TAKEN BY KRISH SIR AND AFTER FEW EXPLORATIONS.

1.0.1 (CONTRIBUTED BY ARPAN CHOUDHURY, BTECH FINAL YEAR, CSE UNDERGRAD, BCREC)

1.1 Applications of learnings at PWSkills and using core math concepts

1.1.1 Application-1 :- Evaluating the number of years left to retire based on current age of an employee in any field (assuming variable retirement age as input).

1.1.2 Application-2 :- Counting the number of fruits in a static basket (Changing manually can be done until list dynamic input is not taught, after it is done, append() function can be used).

1.1.3 Application-3 :- Searching the name in a list using comparison operator.

1.1.4 Application-4 :- Printing the equilateral triangle pattern using nested loops.

1.1.5 Application-5 :- Wishing, the Lovers or your lover friends or valentine, a particular day in Valentine week according to the day of login in February month as input like Happy Teddy Day, Happy Chocolate Day and so on Using if, elif, else.

RAW CELL

2 APPLICATION-1 (APPROACH-1) using ARITHMETIC OPERATIONS

[1]:
```
# Application-1:- Years left for retirement
# Illustrating the concept of ARITHMETIC OPERATION, MINUS
# Approach-1:- Using arithmetic operator, minus.
retirement_age = int(input("WHAT is the retirement age in your working field??
 ↪"))
present_age = int(input("Hello Employee, please enter your current age."))␣
 ↪#TYPE CASTING (CONVERSION) USED
years_left = retirement_age - present_age
```

```
print(f"{years_left} years are left for you to retire. Happy Work Life :) ") #f␣
 ↪used to format
```

```
WHAT is the retirement age in your working field??60
Hello Employee, please enter your current age.22
38 years are left for you to retire. Happy Work Life :)
```

3 APPLICATION-1 (APPROACH-2) using while loop

[2]:
```
# Illustrating the concept of loops (for loop, while loop, for each loop)
retirement_age = int(input("WHAT is the retirement age in your working field??
 ↪"))
present_age = int(input("Hello Employee, please enter your current age."))␣
 ↪#TYPE CASTING (CONVERSION) USED
years_left = 0
while(present_age<retirement_age):
    years_left = years_left + 1
    present_age += 1
    #years_left+=1 #-->Compound assignment can also be used here like C no␣
 ↪years_left++
    #years_left++ gives runtime error
else:print("{} years are left for you to retire. Happy Work Life :) ".
 ↪format(years_left)) #format() function illustration
#single statement suite --> above line and using while and else, like if and␣
 ↪else
```

```
WHAT is the retirement age in your working field??60
Hello Employee, please enter your current age.22
38 years are left for you to retire. Happy Work Life :)
```

4 APPLICATION-2

[3]:
```
# Counting number of fruits in a static basket
count = 0 # To count the number of fruits
basket = ['Apple', 'Orange', 'BlueBerry', "Grapes", 'Banana', 'Mango',␣
 ↪'Promegranate'] #7 fruits can be ound using len(basket) also.
for i in basket: # Illustrating the use of for each loop, this for loop can be␣
 ↪replaced by for i in range(0,7):
    count = count+1
# For each loop iterates through elements of the list or any collection.
print("{c} number of fruits are present in the static basket are.".
 ↪format(c=count)) # format() Used for complex printing
```

```
7 number of fruits are present in the static basket are.
```

[4]:
```
## Important information:- In Python, it seems keywords can be used as identifiers.
str = 5
type ="Abc"
format = 10
print(type)
print(format)
# Its interesting
```

```
Abc
10
```

5 APPLICATION-3

[5]:
```
# Searching name in a list using comparison operator and linear search, if and else
lst = [1,100,1000,55,10,11,12,19,99] #creating a list statically
flag = False
num = int(input("Enter the number to be searched")) #Type Cast
for i in lst:
    if(num==i):
        flag=True
        break
if(flag==1):
    print("Congratulations the number search for was found!")
else:
    print("Sorry! Number is not present here.")
```

```
Enter the number to be searched10
Congratulations the number search for was found!
```

6 APPLICATION-4

[6]:
```
# Printing Equilateral triangle (Pyramid) pattern containing spaces and stars.
n = int(input("Enter the height of the triangle or number of rows:"))
for i in range(0,n):# Illustration of range function use
    for space in range(0,2*n-i-1,1):
        print(' ',end='')
    for j in range(0,2*i+1):
        print("*",end='')
    print('\r')
```

```
Enter the height of the triangle or number of rows:18
                                    *
                                   ***
                                  *****
```

```
*******
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```

7 APPLICATION-5

[7]:
```
# Wishing a valentine week's day to an user based on his date of login in␣
 ↪valentine week or other week.
date_login = int(input("Enter the login day number for February month:")) #␣
 ↪Enter 7 for 7th Feb, 8 for 8th and so on.
if date_login > 14:
    print("Sorry!You have login after the Valentine's week is over.\n Try to␣
 ↪login, during the Valentine's week next year.")
L_val =␣
 ↪['Rose','Propose','Chocolate','Teddy','Promise','Hug','Kiss',"Valentine's"]
for i in range(0,8):
    if date_login-7 == i:
        print(f"Wishing you a very Happy {L_val[i]} Day..") # List[index] used␣
 ↪to access list elements--> square braces
```

```
Enter the login day number for February month:13
Wishing you a very Happy Kiss Day..
```

8 For more such updates, please support and follow me on LinkedIn:- ARPAN CHOUDHURY, (https://www.linkedin.com/in/arpan-choudhury-2084b9200)

9 and on Github:- DATAWORKER2001, (https://github.com/DataWorker2001)