Assignment-2/ Python lab

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1) Write a Program for checking whether the given number is an even number or not.

Code:

```python
a=int(input("Enter a number:"))

if a % 2 == 0:

    print("Given number is even")

else:

    print("Given number is odd")
```

Output:

```
ponk6745@Shreyaans-MacBook-Air python % /usr/local/bin/python3 /Users/ponk6745/Desktop/vscode/python/ass2.py
Enter a number:17
Given number is odd
ponk6745@Shreyaans-MacBook-Air python % 
```

2) Using for loop, write a program that prints out the decimal equivalents of 1/2, 1/3, 1/4, . . . , 1/10.

Code:

```python
for i in range(2,11):

    print(f"1/{i}={(1/i):.3f} ")
```

```
ponk6745@Shreyaans-MacBook-Air python % /usr/local/bin/python3 /Users/ponk6745/Desktop/vscode/python/ass2.py
1/2=0.500
1/3=0.333
1/4=0.250
1/5=0.200
1/6=0.167
1/7=0.143
1/8=0.125
1/9=0.111
1/10=0.100
ponk6745@Shreyaans-MacBook-Air python % 
```

3) Write a program using a while loop that asks the user for a number, and prints a countdown from that number to zero.

Code:

```python
num=int(input("Enter a number:"))

while num >= 0:

    print(num)

    num=num-1
```

4) Write a python script to print the current date in the following format "Mon August 12 02:26:23 IST 2024".

Code:

```python
import datetime

now = datetime.datetime.now()

print(f"{now:%a} {now:%B} {now:%d} {now:%H}:{now:%M}:{now:%S} IST {now:%Y}")
```

Output:

5) Write a python program to find largest of three numbers.

Code:

```python
a=int(input("Enter the first number: "))

b=int(input("Enter the second number: "))

c=int(input("Enter the third number: "))

if a>b and a>c:

    print(f"First number is the largest")

elif b>c:

    print(f"Second number is the largest")

else:

    print(f"Third number is the largest")
```

Output:

6) Write a Python program to convert temperatures to and from Celsius, Fahrenheit. [Formula : c/5 = f-32/9]

```
cel=int(input("Enter temperature in celsius: "))

faren=int(input("Enter temperature in fahrenheit: "))

a=(faren-32) * 5/9

b=cel*9/5 +32

print(f"Celsius converted to Fahrenheit:{b}")

print(f"Fahrenheit converted to Celsius:{a}")
```

```
● ponk6745@Shreyaans-MacBook-Air python % /usr/local/bin/python3 /Users/ponk6745/Desktop/vscode/python/ass2.py
  Enter temperature in celsius: 0
  Enter temperature in fahrenheit: 32
  Celsius converted to Fahrenheit:32.0
  Fahrenheit converted to Celsius:0.0
○ ponk6745@Shreyaans-MacBook-Air python % 
```

7) Write a Python script that prints prime numbers less than 20.

Code:

```
print("Prime numbers less than 20 are:")

for i in range(2,20):

    flag = 0

    for j in range(2, int((i//2)) + 1):

        if (i % j == 0):

            flag = 1

            break

    if (flag == 0):

        print(i)
```

Output:

```
● ponk6745@Shreyaans-MacBook-Air python % /usr/local/bin/python3 /Users/ponk6745/Desktop/vscode/python/ass2.py
  Prime numbers less than 20 are:
  2
  3
  5
  7
  11
  13
  17
  19
○ ponk6745@Shreyaans-MacBook-Air python % 
```

8) Write a program that accepts the lengths of three sides of a triangle as inputs. The program output should indicate whether or not the triangle is a right triangle (Recall from the Pythagorean Theorem that in a right triangle, the square of one side equals the sum of the squares of the other two sides).

Code:

```python
a=int(input("Enter the perpendicular: "))

b=int(input("Enter the base: "))

c=int(input("Enter the hypotenuse: "))

if c*c == a*a + b*b:

    print("Triangle is a right angle triangle")

else:

    print("Triangle is not a right angle triangle")
```

9) Write a python program to find the best of two test average marks out of three test's marks accepted from the user.

Expected Result:

```
Enter marks for test1 : 45
Enter marks for test2 : 39
Enter marks for test3 : 48
Average of best two test marks  out of three test's marks is 46.5
```

Code:

```python
a=int(input("Enter marks for test1 : "))

b=int(input("Enter marks for test2 : "))

c=int(input("Enter marks for test3 : "))

mini=min(a,b,c)

average = (a + b + c - mini) / 2

print(f"Average of best two test marks  out of three test's marks is {average:.1f}")
```

Output:

10) Develop a Python program to check whether a given number is palindrome or not and also count the number of occurrences of each digit in the input number.

Expected Result:

```
Enter a value : 1234234
Not Palindrome
1 appears 1 times
2 appears 2 times
3 appears 2 times
4 appears 2 times
Enter a value : 12321
Palindrome
1 appears 2 times
2 appears 2 times
3 appears 1 times
```

Code:

```python
num=int(input("Enter a value:"))

t=0

n=num

Dict={1:0,2:0,3:0,4:0,5:0,6:0,7:0,8:0,9:0,0:0}

while n>0:

    t=n%10

    Dict[t]+=1

    t=(t*10)+t

    n=n//10

if num==t :

    print("Palindrome")

else :

    print("Not Palindrome")



for key in Dict.keys():

    if Dict[key]!=0:

        print(key," appears ",Dict[key]," times")
```

Output:

```
ponk6745@Shreyaans-MacBook-Air python % /usr/local/bin/python3 /Users/ponk6745/Desktop/vscode/python/ass2.py
Enter a value:1234234
Not Palindrome
1  appears  1  times
2  appears  2  times
3  appears  2  times
4  appears  2  times
ponk6745@Shreyaans-MacBook-Air python % /usr/local/bin/python3 /Users/ponk6745/Desktop/vscode/python/ass2.py
Enter a value:12321
Not Palindrome
1  appears  2  times
2  appears  2  times
3  appears  1  times
ponk6745@Shreyaans-MacBook-Air python %
```

11) Write a Python program that accepts a sentence and find the number of words, digits, uppercase letters and lowercase letters.

Expected Result:

```
Enter a sentence : Rama went to Devaraja market to pick 2 kgs of vegetable
This sentence has 11 words

This sentence has 1 digits
2 upper case letters
42 lower case letters
```

```python
s = input("Enter a sentence : ")

digit = 0

upper = 0

lower = 0

words = s.split()

word = len(words)

for char in s:

    if char.isdigit():

        digit += 1

    elif char.isupper():

        upper += 1

    elif char.islower():

        lower += 1


print(f"This sentence has {words} words")

print(f"This sentence has {digit} digits")

print(f"{upper} upper case letters")
```

```
print(f"{lower} lower case letters")
```

```
ponk6745@Shreyaans-MacBook-Air python % /usr/local/bin/python3 /Users/ponk6745/Desktop/vscode/python/ass2.py
Enter a sentence : Rama went to Devaraja market to pick 2 kgs of vegetable
This sentence has ['Rama', 'went', 'to', 'Devaraja', 'market', 'to', 'pick', '2', 'kgs', 'of', 'vegetable'] words
This sentence has 1 digits
2 upper case letters
42 lower case letters
ponk6745@Shreyaans-MacBook-Air python % ☐
```