New Assignment : Python Programs by Kapil Patel

1. Program to print two different strings "Hello" and "World" in different lines.

```
print("Hello")
print("World")
```

2. Program to print two different strings "Hello" and "World" in a single line.

```
print("Hello","World")
```

3. Program to add two entered integer values.

```
a = int(input("Enter the value of a: "))
b = int(input("Enter the value of b: "))

c = a + b
print("The sum of {} and {} is: {}".format(a, b, c))
```

4. Program to subtract two entered integer values.

```
a = int(input("Enter the value of a: "))
b = int(input("Enter the value of b: "))

c = a - b
print("The subtraction of {} and {} is: {}".format(a, b, c))
```

5. Program to multiply two entered integer values.

```python
a = int(input("Enter the value of a: "))
b = int(input("Enter the value of b: "))

c = a * b
print("The multiplication of {} and {} is: {}".format(a, b, c
```

6. Program to input two integer values and calculate first number raised to the power second number.

```python
a = int(input("Enter the value of a (first integer): "))

b = int(input("Enter the value of b (second integer): "))

power = a ** b

print("{} raised to the power of {} is: {}".format(a, b, powe
```

7. Program to find the area and perimeter of a rectangle, when the required input (Length and Breadth) are entered by the user.

```python
a = int(input("Enter the Length of Rectangle (a): "))
b = int(input("Enter the Breadth of Rectangle (b): "))

area = a * b
perimeter = 2 * (a * b)

print("Area of Rectangle is {} and Perimeter of Rectangle is
```

8. Program to find the area and circumference of a circle, when the radius is entered by the user. However, the user can input radius in integer or floa

```python
pi = 3.14

radius = input("Enter the radius of the circle: ")

radius = float(radius)

area = pi * (radius ** 2)
circumference = 2 * pi * radius

print("The area of the circle is {:.2f}".format(area))
print("The circumference of the circle is {:.2f}".format(circ
```

9. Program to find the hypotenuse of a right angled triangle, when the base and height are entered by the user.

```python
base = input("Enter the base of the right-angled triangle: ")

height = input("Enter the height of the right-angled triangle

base = float(base)
height = float(height)

hypotenuse = (base**2 + height**2) ** 0.5

print("The hypotenuse of the right-angled triangle is: {:.2f}
```

10. Program to input two numbers and print the swapped values of them.

```python
num1 = int(input("Enter the first number: "))
num2 = int(input("Enter the second number: "))

temp = num1
num1 = num2
```

```
num2 = temp

print("After Swapped, values: First number =", num1, ", Secon
```

11. Program to find the number of currency notes of each type (Rs. 2000, Rs. 500 and Rs. 100), when the total number of currency notes counted altogether is minimum and there must be at least a 100 rupee note dispensed. The amount to be withdrawn is to be entered by the user.

```python
amount = int(input("Enter the amount to be withdrawn: "))


if amount % 100 != 0 or amount < 100:
    print("Please enter a valid amount.")
else:
    num_2000 = amount // 2000
    amount %= 2000

    num_500 = amount // 500
    amount %= 500

    num_100 = amount // 100

    print("Number of Rs. 2000 notes:", num_2000)
    print("Number of Rs. 500 notes:", num_500)
    print("Number of Rs. 100 notes:", num_100)
```

12. Program to find whether a triangle is scalene, isosceles, right angled or invalid when the sides of the triangle are entered by the user.

```python
side1 = input("Enter the length of side 1: ")
side2 = input("Enter the length of side 2: ")
side3 = input("Enter the length of side 3: ")
```

```
side1 = float(side1)
side2 = float(side2)
side3 = float(side3)

if side1 + side2 > side3 and side1 + side3 > side2 and side2

    if side1**2 + side2**2 == side3**2 or side1**2 + side3**2
        triangle = "Right-angled"
    elif side1 == side2 or side1 == side3 or side2 == side3:
        triangle = "Isosceles"
    else:
        triangle = "Scalene"

    print("The triangle is", triangle)
else:
    print("The given sides cannot form a triangle.")
```

13. Program to find the Simple Interest and the total amount when the Principal, Rate of Interest and Time are entered by the user.

```
principal = input("Enter the principal amount: ")

rate = input("Enter the rate of interest in percentage: ")

time = input("Enter the time in years: ")

principal = float(principal)
rate = float(rate)
time = float(time)

simple_interest = (principal * rate * time) / 100

total_amount = principal + simple_interest
```

```
print("Simple Interest: {:.2f}".format(simple_interest))
print("Total Amount: {:.2f}".format(total_amount))
```

14. Program to find the Compound Interest compounded annually and the total amount when the Principal, Rate of Interest and Time are entered by the user.

```
principal = input("Enter the principal amount: ")

rate = input("Enter the rate of interest in percentage: ")

time = input("Enter the time in years: ")

principal = float(principal)
rate = float(rate)
time = float(time)

compound_interest = principal * (1 + rate/100)**time - princi

total_amount = principal + compound_interest

print("Compound Interest (compounded annually): {:.2f}".forma
print("Total Amount: {:.2f}".format(total_amount))
```

15. Program that calculates the number of rectangular tiles required to cover a rectangular floor if the dimensions of the floor and the dimensions of a tile are entered by the user.

```
floor_length_str = input("Enter the length of the floor in me
floor_width_str = input("Enter the width of the floor in mete

tile_length_str = input("Enter the length of the tile in mete
tile_width_str = input("Enter the width of the tile in meters

floor_length = float(floor_length_str)
```

```python
floor_width = float(floor_width_str)
tile_length = float(tile_length_str)
tile_width = float(tile_width_str)

num_tiles_length = floor_length / tile_length
num_tiles_width = floor_width / tile_width

import math
total_tiles = math.ceil(num_tiles_length) * math.ceil(num_til

print("Number of rectangular tiles required to cover the floo
```

16. Program to input the number of overs in a Cricket match and output the maximum runs a player can score in the match. Assume that there are no extra runs or NO balls in the match played. For example, in a 50 over match, the maximum runs scored are 1653.

```python
overs = int(input("Enter the number of overs in the cricket m

runs = overs * 6

print("The maximum runs a player can score is: {}".format(run
```

17. Program to input the number of heads and feet in a farm and identify the number of chickens and goats in the farm. For example, if there are 340 heads and 1,060 feet, there are 150 chickens and 190 goats.

```python
heads = int(input("Enter the number of heads on the farm: "))
feet = int(input("Enter the number of feet on the farm: "))

chickens = (4 * heads - feet) / 2
goats = heads - chickens
```

```python
print("Number of chickens on the farm:", int(chickens))
print("Number of goats on the farm:", int(goats))
```