Python Files to PDF

prog_1(b).py

```python
import math
radius = float(input("Enter the radius of the Circle: \n"))
perimeter = 2*math.pi*radius
area = math.pi*radius*radius

print(f"Perimeter of circle: {perimeter:.2f}")
print(f"Area of circle: {area:.2f}")
```

prog_2(a,b).py

```python
# Swap without using third variable..

a = int(input("Enter the First No: "))
b = int(input("Enter the second No: "))

print("\nBefore Swapping A , B = ",a,b)
# Logic
a,b = b,a
print("After Swapping A , B = ",a,b)

print("\n ***********************")

# Swap with using third variable..

print("Before Swapping A , B = ",a,b)

# Logic
temp = a
a = b
b = temp

print("After Swapping A , B = ",a,b)
```

prog_3(a).py

```python
# Find the Greatest among Three Numbers..

a = int(input("Enter First Number: "))
b = int(input("Enter Second Number: "))
c = int(input("Enter Third Number: "))

#Logic
greatest = a if a>b and a>c else b if b>c and b>a else c

print("\nGreatest Among Three Numbers = ",greatest)
```

prog_3(b).py

```python
# Check Wheather a year is Leap or Not..

year = int(input("Enter the Year: "))
#Logic
if(year % 4 == 0 and (year % 100 != 0 or year % 400 == 0)):
    print(f"{year} is a leap year.")
else:
    print(f"{year} is not a leap year.")
```

prog_3(c).py

```python
import math
a = float(input("Enter the coefficient of a: "))
b = float(input("Enter the coefficient of b: "))
c = float(input("Enter the coefficient of c: "))

#Logic
```

```python
d = b*b - 4*a*c

if(d>0):
    root1 = (-b + math.sqrt(d)) / (2*a)
    root2 = (-b - math.sqrt(d)) / (2*a)
    print(f"The equation has two distinct real roots: {root1} and {root2}")

elif(d==0):
    root = -b/(2*a)
    print(f"The equation has one distinct real roots: {root}")

else:
    real_part = root
    imaginary_part = math.sqrt(-d) / (2*a)
    print(f"The equation has two complex roots: {real_part} + {imaginary_part}i and {real_part} - {imaginary_part}i")
```

prog_4(a).py

```python
# Generate Fibonacci Series Upto Nth terms..

n = int(input("Enter the no of terms: "))
a,b = 0,1
print("Fibonacci Series: ")
for i in range (n):
    print(a,end=" ")
    a,b = b,a+b
```

prog_4(b).py

```python
start = int(input("Enter the Starting Range: "))
end = int(input("Enter the Ending Range: "))
```

```python
print(f"Prime numbers between {start} and {end}: ")
for n in range(start, end + 1):
    if n <= 1:
        continue
    for i in range(2, int(n ** 0.5) + 1):
        if n % i == 0:
            break
    else:
        print(n, end=" ")
```

prog_4(c).py

```python
# Print Automorphic Numbers..

start = int(input("Enter the Starting Range: "))
end = int(input("Enter the Ending Range: "))
for n in range(start,end):
    square = str(n ** 2)
    num_str = str(n)

    if square.endswith(num_str):
        print(f"{n} is an automorphic number.")
```

prog_4(d).py

```python
# Generate Pattern 1

# n = int(input("Enter the no of lines: "))
# for i in range(1,n):
#     print("*" * i)
# print("*" * (n*2-1))
# for j in range(n,1,-1):
#     print(" " * (2*n-j) + "*" * (j-1))
```

```python
# Generate Pattern 2

for i in range(65,70):
    for k in range(70-i):
        print(" ",end=" ")
    for j in range(i,64,-1):
        print(chr(j),end=" ")
    print()
```

prog_5(a).py

```python
# Convert Uppercase string into Lowercase  and vice versa..

string = str(input("Enter the string: "))
result = string.swapcase()
print("Resultant string: ",result)
```

prog_5(b).py

```python
# Extract Rool no and Institute Name..

email = input("Enter the Email Id: ")
roll,institute_name = email.split("@")
institute_name = institute_name.split(".")[0]
print("Roll Number: ",roll)
print("Institute Name: ",institute_name.upper())
```

prog_5(c).py

```python
# Accept the sentence and count the upper and lower case character..

sentence = str(input("Enter the sentence: "))
upper = sum(1 for char in sentence if char.isupper())
lower = sum(1 for char in sentence if char.islower())
print("UpperCase Letters: ",upper)
print("LowerCase Letters: ",lower)
```

prog_5(d).py

```python
sentence = input("Please enter a sentence: ")
start = int(input("Enter start index: "))
end = int(input("Enter end index: "))
substring = sentence[start:end+1]
print("Extracted substring: ",substring)

clean_substring = "".join(e for e in substring if e.isalnum()).lower()
print("Cleaned substing: ",clean_substring)

if (clean_substring == clean_substring[::-1]):
    print(f"{substring} is a palindrome.")
else:
    print(f"{substring} is not a palindrome.")
```