

1a

```
a=input("enter your name")
print(f"hello {a}")
```

1b

```
num_1=int(input("Enter a number "))
num_2=int(input("Enter a number "))
add=num_1+num_2
sub=num_1-num_2
mul=num_1*num_2
div=num_1/num_2
print(f"the addition of the 2 numbers is {add}\n the difference is {sub}\n
the multiplication is {mul}\nthe division is {div}")
```

1c

```
print("Enter a sentence ") sentence = input()
words = sentence.split() word_count = 0
character_count = 0 for word in words:
word_count += 1 character_count += len(word)
print("Total Numbers of Words in the sentence are : ",word_count)
print("Total Numbers of characters in the sentence excluding spaces
are : ",character_count) print("Total Numbers of characters in the
sentence including spaces are : ",character_count+word_count-1)
```

1d

```
while True:
print("Select the Shape that you want to calculate Area") print(""" 1. Rectangle
2. Triangle
3. Circle
4. Exit """) choice = input() if(choice == '1'):
print("Enter the Width of the Rectangle in meters") width = int(input())
print("Enter the height of the Rectangle in meters") height = int(input())
print("The area of a Given Rectangle is ", width*height , " square meters ") continue
elif(choice == '2'):
print("Enter the Base value of the Triangle in meters") base = int(input())
print("Enter the height of the Triangle in meters") height = int(input())
print("The area of a Given Rectangle is ", 0.5*base*height , " square meters ") continue
elif(choice == '3'):
print("Enter the Radius of the Circle in meters") radius = int(input())
print("The area of a Given Circle is ", 3.14*radius*radius , " square meters ") continue
elif(choice == '4'):
break
else:
print("Please enter a valid number from the menu")
continue
print("Thank You")
```

1e.py:

```
print("Enter Your name : ") name = input()
print("Enter How many times you want to print your name") n = int(input())
for i in range(n): print(name)
```

1f.py:

```
print("Enter Numerator Value : ") num1 = int(input())
print("Enter Denominator value : ") num2 = int(input())
try:
    result = num1/num2
    print("The Division of Given Numbers is : ", result) except ZeroDivisionError:
    print("Divide By zero Error. The Denominator should not be Zero")
```

1g.py:

```
import time
for i in range(10):
    seconds = time.time() #it will give to you as a float values
    local_time = time.ctime(seconds) #it will gives to you as a current local time
    print("Local time:", local_time)
    time.sleep(10)
```

1h.py:

```
import time
for i in range(10):
    seconds = time.time() #it will give to you as a float values
    local_time = time.ctime(seconds)
    #it will gives to you as a current local time print("Local time:", local_time)
    time.sleep(10)
```

myfile.txt:

Hello World! Welcome to python programming
This is sample text file for testing the words We are the students of MCA
These are my first python

2

```
import RPi.GPIO as GPIO
from time import sleep
GPIO.setmode(GPIO.BOARD)
GPIO.setup(8, GPIO.OUT, initial = GPIO.LOW)
while True:
    GPIO.output(8,GPIO.HIGH)
    sleep(0.5)
    GPIO.output(8,GPIO.LOW)
    sleep(0.5)
```

3

```
import time
import datetime
import RPi.GPIO as GPIO
LED=27
GPIO.setmode(GPIO.BCM)
GPIO.setup(LED, GPIO.out)
f = open("on.txt",'r')
q = open('off.txt','r')
while (true):
    now = datetime.datetime.now()
    todayon = now.replace(f)
    todayoff = now.replace(q)
    turnon = now>todayon and now<todayoff
    turnoff = now>todayoff
    if(turnon == True):
        GPIO.output(LED, GPIO.HIGH)
        time.sleep(1)
        GPIO.output(LED, GPIO.LOW)
        time.sleep(1)
on.txt
hour=12,minute=05,second=0,microsecond=0
off.txt
hour=12,minute=06,second=0,microsecond=0
```

4

```
import time
import RPi.GPIO as gpio
gpio.setwarnings(False)
gpio.setmode(gpio.BOARD)
relay1 = 38
gpio.setup(relay1,gpio.OUT,initial=0)
try:
    gpio.output(relay1, True)
    print("Relay is Switched On. Please Press ctrl+c to exit")
    time.sleep(15)
    print("Relay is Switched Off.")
    gpio.output(relay1, False)
except KeyboardInterrupt:
    gpio.cleanup()
print("Program Exited")
```

8

```
import RPi.GPIO as GPIO
GPIO.setmode(GPIO.BCM)
GPIO.setup(4,GPIO.IN)
while True:
    i=GPIO.input(4)
    if i==True:
        print("Light is Off")
    else:
        print("Light is On")
```

9

```
import Adafruit_DHT
import RPi.GPIO as GPIO
from time import sleep
sensor = Adafruit_DHT.DHT11
gpio = 17
GPIO.setmode(GPIO.BOARD)
GPIO.setwarnings(False)
GPIO.setup(8, GPIO.OUT, initial = GPIO.LOW)
while True:
    hum , temp = Adafruit_DHT.read_retry(sensor , gpio)
    if hum is not None and temp is not None:
        print("Temp = {0:0.1f}*C Humidity= {1:0.1f}%".format(temp,hum))
        if temp>=28:
            GPIO.output(8,GPIO.HIGH)
            sleep(0.5)
        else:
            GPIO.output(8,GPIO.LOW)
            sleep(0.5)
    else:
        print("Try again")
```