Python Practice – SIMPLE PROGRAMS

1) Write an algorithm, draw a flow chart and write a python program for the following requirements.

a. Read choice from users.

b. If user's choice is '1', then print 5 points about our India.

c. If user's choice is '2', then print your details (5 points).

d. If user's choice is '3', then print 5 points about the Sun.

ALGORITHM :

1. Start

2. Read choice from users.

3. According to the users choice print the desired result.

4. End

FLOWCHART :

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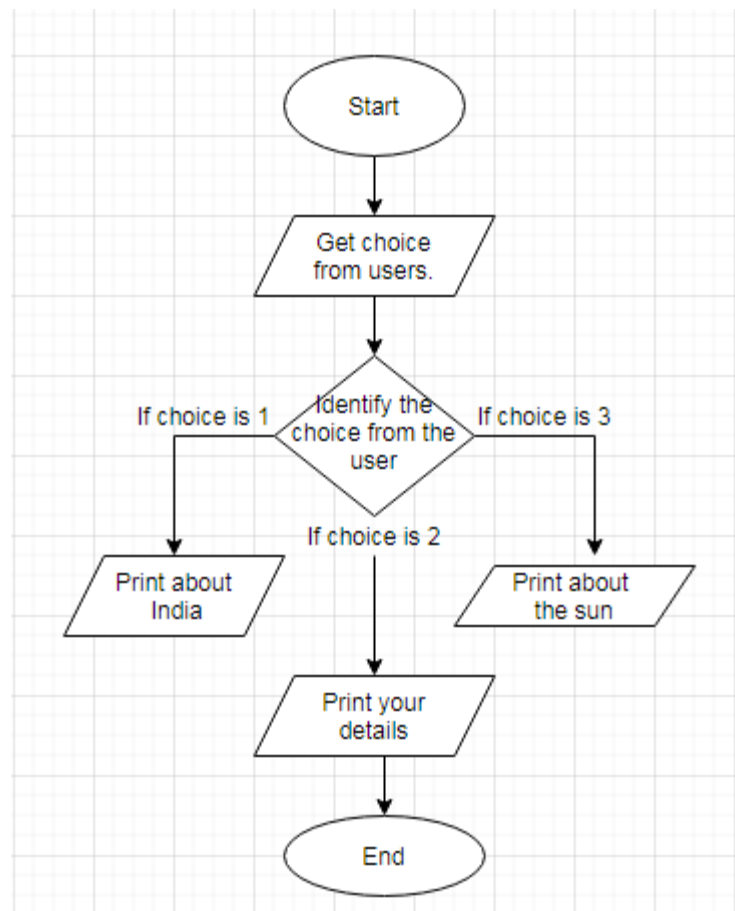
CODE :

```python
choice=int(input("Enter your choice 1,2,3: "))
print(choice)
if choice == 1:
  print("India is a country in south asia.")
  print("India is the 2nd most populous country.")
  print("India is 7th largest country by land area.")
  print("India is most populous democracy in world.")
  print("India is in the vicinity of Sri Lanka.")

elif choice == 2:
  print("I am Akshat.")
  print("I am 18 years old.")
  print("I am from Vit University.")
  print("I am pursuing Software Engineering course.")
  print("My goal is to be a software developer.")

elif choice == 3:
  print("The Sun is the star at the center of the Solar System.")
  print("It is a nearly perfect sphere of hot plasma.")
  print("It radiates energy mainly as light.")
  print("Its diameter is 1.39 million km.")
  print("Its mass is about 330000 times that of Earth.")

else:
  print("Invalid choice.")
```
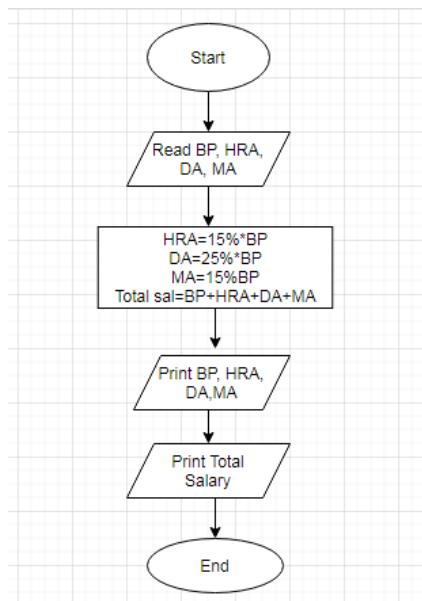
OUTPUT :

```
C:\Users\user\Desktop\python>C:/Users/user/AppData/Local/Programs/Python/Python3
8-32/python.exe c:/Users/user/Desktop/python/act3.py
Enter your choice 1,2,3: 2
2
I am Akshat.
I am 18 years old.
I am from Vit University.
I am pursuing Software Engineering course.
My goal is to be a software developer.

C:\Users\user\Desktop\python>
```

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2. **Write an algorithm, draw a flow chart and write a python program for the following requirements.**

   a. Read Basic Pay (BP), House Rent Allowance (HRA), Dearness Allowance (DA), Medical Allowance

   (MA) from users.

   b. Calculate the total salary using the following formulas.

   i. HRA = 15 % of BP

   ii. DA = 25 % of BP

   iii. MA = 15 % of BP

   iv. Total_Salary = BP + HRA + DA + MA

   c. Print BP, HRA, DA, MA and Total_Salary in output screen in legible format.

ALGORITHM :

1. Start
2. Read Basic Pay from users.
3. Calculate
   HRA by BP*15%
   DA by BP*25%
   MA by BP*15%
   Total salary by BP+DA+HRA+MA
4. Print
   TOTAL SAL, HRA , DA, MA, BP
5. End

FLOWCHART:

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CODE:

```python
#storing BP, HRA, DA, MA
bp=input("Enter Basic Pay.")
BasicPay=float(bp)

hra=0.15*float(bp)
da=0.25*float(bp)
ma=0.15*float(bp)

Totalsal=float(hra)+float(da)+float(ma)+float(bp)
print("Total salary is:",Totalsal,"\n")
print("BP is:",bp,"\n")
print("HRA is:",hra,"\n")
print("DA is:",da,"\n")
print("MA is:",ma,"\n")
```

OUTPUT:

```
C:\Users\user\Desktop\python>C:/Users/user/AppData/Local/Programs/Python/Python3
8-32/python.exe c:/Users/user/Desktop/python/act4.py
Enter Basic Pay.1000
Total salary is: 1550.0

BP is: 1000

HRA is: 150.0

DA is: 250.0

MA is: 150.0


C:\Users\user\Desktop\python>
```

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3) Write an algorithm, draw a flow chart and write a python program for the following requirements.

a. Read the radius of a circle from user and calculate its area.

b. Read the length and width of a rectangle from user and calculate its area.

c. Compare the area of the circle and the rectangle.

d. Print the one with largest area.

ALGORITHM:

1. Start
2. Read the radius of circle
3. Read the length and breadth of Rectangle
4. Calculate Area of circle by πr^2.
5. Calculate Area of Rectangle by Length*Breadth.
6. Compare areas of circle and rectangle.
7. Print the largest one.

FLOWCHART:
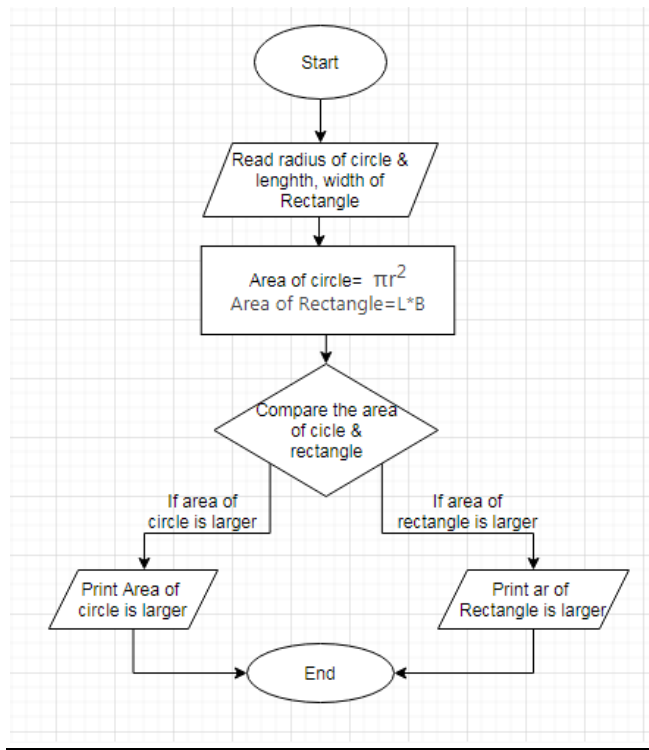
CODE:

```python
cir_r = int(input("Enter the radius of circle : "))
rec_l = int(input("Enter the length of the rectangle : "))
rec_w = int(input("Enter the width of the rectangle : "))
area_cir = (cir_r*cir_r) * 22/7
area_rec = rec_l * rec_w
print("Area of the circle is = ",area_cir)
print("Area of the rectangle is = ",area_rec)
if area_cir > area_rec :
    print("Area of the circle is largest")
else :
    print("Area of the rectangle is largest")
```

OUTPUT:

```
C:\Users\user\Desktop\python>C:/Users/user/AppData/Local/Programs/Python/Python3
8-32/python.exe c:/Users/user/Desktop/python/1.5.3.PY
Enter the radius of circle : 2
Enter the length of the rectangle : 2
Enter the width of the rectangle : 2
Area of the circle is =  12.571428571428571
Area of the rectangle is =  4
Area of the circle is largest

C:\Users\user\Desktop\python>
```