Program cycle-1

J.HARSHA SAI –Y20CS068-B-SECTION

1)Python program to print "Hello Python"

SOURCE CODE:

```
print("hello Python")
```

OUTPUT:

```
hello Python
```

2)Python program to do arithmetical operations

SOURCE CODE:

```
a=30
b=15
sum=a+b
sub=a-b
mut=a*b
div=a/b
mod=a//b
print(sum,sub,mut,div,mod)
print("\t")
```

OUT PUT:

```
45 5 450 2.0 2
```

3)Python program to find the area of a triangle

SOURCE CODE:

```
b=10
h=4
a=1/2*b*h
print(a)
```

OUT PUT:

```
20.0
```

4)Python program to solve quadratic equation

SOURCE CODE:

```
# Solve the quadratic equation ax**2 + bx + c = 0

# import complex math module

import cmath

a = 1

b = 5

c = 6

# calculate the discriminant

d = (b**2) - (4*a*c)

# find two solutions

sol1 = (-b-cmath.sqrt(d))/(2*a)
```

```
sol2 = (-b+cmath.sqrt(d))/(2*a)

print('The solution are {0} and {1}'.format(sol1,sol2))
```

OUT PUT:

```
Enter a: 1
Enter b: 5
Enter c: 6
The solutions are (-3+0j) and (-2+0j)
```

5)Python program to swap two variables

SOURCE CODE:

```
a=5

b=10

a,b=b,a

print(a,b)
```

OUTPUT:

```
10 5
```

6)Python program to generate a random number

SOURCE CODE:

```
import random

print(random.randint(10,100))
```

OUTPUT:

```
61
```

7)Python program to convert kilometers to miles

SOURCE CODE:

```
kilo=int(input("enter kilometers value"))

miles=kilo*0.621371

print(miles)
```

OUTPUT:

```
enter kilometers value100

62.137100000000004

enter kilometers value46

28.583066
```

8) Python program to convert Celsius to Fahrenheit

SOURCE CODE:

```
c=int(input("enter celsisus value"))

f=((5*c)/9)+32

print(f)
```

OUTPUT:

```
enter celsisus value45

57.0

enter celsisus value36

52.0
```

9) Python program to display calendar

SOURCE CODE:

```
import calendar

year=int(input("enter a year"))

month=int(input("enter a month"))

print(calendar.month(year,month))
```

OUTPUT:

```
enter a year2021

enter a month6

 June 2021

Mo Tu We Th Fr Sa Su

 1 2 3 4 5 6

7 8 9 10 11 12 13

14 15 16 17 18 19 20

21 22 23 24 25 26 27

28 29 30
```

10) Python Program to Check if a Number is Positive, Negative or Zero

SOURCE CODE:

```
n=int(input("enter a number"))
if(n>=0):
 print("the n is postive")
else:
 print("the n is negative")
```

OUTPUT:

```
enter a number65
the n is postive
enter a number-63
the n is negative
```

11) Python Program to Check if a Number is Odd or Even

SOURCE CODE:

```
 d=int(input("enter a number"))
if(d%2==0):
 print("d is even number")
else:
 print("d is odd number")
```

OUTPUT:

```
enter a number10
d is even number
enter a number9
d is odd number
```

12) Python Program to Check Leap Year

SOURCE CODE:

```
year=int(input("enter a year"))

if(year%4==0):

 print("it is a leap year")

else:

 print("it is not a leap year")
```

OUTPUT:

```
enter a year2021

it is not a leap year

enter a year2020

it is a leap year
```

13) Python Program to Check Prime Number

SOURCE CODE:

```
 n=int(input("enter a value"))
c=0
i=1
while(i<=n):
 if(n%i==0):
 c=c+1
 i=i+1
if(c==2):
 print("it is a prime")
else:
 print("it is not a prime")
```

OUTPUT:

```
enter a value5
it is a prime
enter a value24
it is not a prime
```

14) Python Program to Print all Prime Numbers in an Interval

SOURCE CODE:

```
 n1=int(input("enter first range"))
n2=int(input("enter second range"))
for i in range(n1,n2+1):
 flag=0
 for j in range(2,i):
 if(i%j==0):
 flag=1
 break
 if(flag==0):
 print(i)
```

OUTPUT:

```
enter first range1
enter second range10
1
2
3
5
7
```

15) Python Program to Find the Factorial of a Number

SOURCE CODE:

```
n= int(input("enter anumber"))

fact=1

for i in range(1,n+1):

 fact=fact*i

print(fact)
```

OUTPUT:

```
enter anumber6

720

enter anumber5

120
```

16) Python Program to Display the multiplication Table

SOURCE CODE:

```
n=int(input("enter a number"))
for i in range(1,11):
print(n*i)
```

OUTPUT:

```
enter a number6
6
12
18
24
30
36
42
48
54
60
```

17) Python Program to Print the Fibonacci sequence

SOURCE CODE:

```
 n=int(input("enter a value"))
a=0
b=1
print(a,b,end="")
for i in range(1,n):
 next=a+b
 print(next,end="")
 a=b
 b=next
```

OUTPUT:

```
enter a value4
    0   1123
```

18)Python Program to Check Armstrong Number

SOURCE CODE:

```
n=int(input("enter a value"))
t=n
sum=0
while(n!=0):
 r=n%10
 f=r*r*r
 sum=sum+f
 n=n//10
if(sum==t):
 print("it is a amstrong")
else:
 printf("it is not amstrong")
```

OUTPUT:

```
enter a value153
it is a amstrong
```

19)Python Program to Find Armstrong Number in an Interval

SOURCE CODE:

```
l=int(input("enter lower range"))
u=int(input("enter upper range"))
for i in range(l,u+1):
 sum=0
 t=i
 while(i>0):
 d=i%10
 sum=sum+d**3
 i//=10
 if(sum==t):
 print(t)
```

OUTPUT:

```
enter lower range200
enter upper range800
370
371
407
```

20)Python Program to Find the Sum of Natural Numbers

SOURCE CODE:

```
n=int(input("enter a number"))
sum=0
for i in range(1,n+1):
 sum=sum+i
print(sum)
```

OUTPUT:

```
enter a number5
15
```