

Programm_01

```
#Uncomment below to take inputs from the user
a = float(input('Enter first side: '))
b = float(input('Enter second side: '))
c = float(input('Enter third side: '))

# calculate the semi-perimeter
s = (a + b + c) / 2

# calculate the area
area = (s*(s-a)*(s-b)*(s-c)) ** 0.5
print('The area of the triangle is %0.2f' %area)
```

programm_02

```
def factorial(x):
    """This is a recursive function
    to find the factorial of an integer"""

    if x == 1:
        return 1
    else:
        # recursive call to the function
        return (x * factorial(x-1))

if __name__ == '__main__':
    x = int(input("Enter your input...."))
    print(factorial(x))
```

programm_03

```
lower = 1
upper = 100

print("Prime numbers between", lower, "and", upper, "are:")

for num in range(lower, upper + 1):
    # all prime numbers are greater than 1
    if num > 1:
        for i in range(2, num):
            if (num % i) == 0:
                break
        else:
            print(num)
```

programm_04

```
lower = 1
upper = 100

for num in range(lower, upper + 1):
    if num % 7 == 0:
        print(num)
```

programm_05

```
x = int(input("Enter your input..."))
if x >= 80:
    print("You got A+")
elif x >= 70:
    print("You got A")
elif x >= 60:
    print("You got A-")
elif x >= 50:
    print("You got B")
elif x >= 40:
    print("You got C")
else:
    print("You not pass")
```

programm_06

```
bangla = 86
math = 77
science = 80

if bangla > math and bangla > science:
    print("This is a large number in Bangla....", bangla)
elif math > bangla and math > science:
    print("This is a large number in Math....", math)
else:
    print("This is a large number in Science....", science)
```

programm_07

```
a = int(input("Enter your first number...."))
b = int(input("Enter your second number...."))
c = int(input("Enter your third number...."))

print()
if a > b and a > c:
    print("This is the larger number..", a)
elif b > a and b > c:
    print("This is the larger number..", b)
else:
    print("This is the larger number..", c)
```

programm_08

```
for i in range(10):
    x = int(input("Enter your input..."))
    if x>=80:
        print("You got A+")
    elif x>=70:
        print("You got A")
    elif x>=60:
        print("You got A-")
    elif x>=50:
        print("You got B")
    elif x>=40:
        print("You got C")
    else:
        print("You not pass")
```

programm_09

```
num = int(input("Enter your input...."))

# If given number is greater than 1
if num > 1:
    # Iterate from 2 to n / 2
    for i in range(2,int(num/2)+1):

        # If num is divisible by any number between
        # 2 and n / 2, it is not prime
        if (num % i) == 0:
            print(num, "is not a prime number")
            break
    else:
        print(num, "is a prime number")
else:
    print(num, "is not a prime number")
```

programm_10

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

# import complex math module
import cmath

a = int(input("Enter your value of a..."))
b = int(input("Enter your value of b..."))
c = int(input("Enter your value of c..."))

# 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))
```

programm_11

```
x = int(input("Enter a number: "))
i = 1

while i <= x:
    if i % 2 == 0:
        print(i)
    i = i + 1
```

programm_12

```
lower = int(input("Enter your first input...."))
upper = int(input("Enter your second input...."))
result = 0

for num in range(lower, upper + 1):
    if num % 7 == 0:
        result = result + num
print(result)
```


