SOLUTIONS

QUESTION - 1:

```
import math as m
a = float(input("Enter any number: "))
b = float(input("Enter any number: "))
c = float(input("Enter any number: "))

s1 = m.sqrt(a)
s2 = m.sqrt(b)
s3 = m.sqrt(c)

sum = s1+s2+s3

print(f"The sum of roots of {a}, {b} and {c} is {sum}.")
```

QUESTION - 2:

```
n = int(input("Enter the number of integers: "))
sum = n * (n+1)/2
print(sum)
```

ANOTHER APPROACH

```
n = 100
sum = 0
for i in range (1,n+1):
    sum += i
print(f"The sum of first {n} integers is {sum}.")
```

QUESTION - 3:

```
n = int(input("Enter the number of odd numbers: "))
sum = 0
odd_num = 1
for i in range (n):
    sum += odd_num
    odd_num += 2
print(f"The sum of first {n} odd numbers is {sum}.")
```

QUESTION - 5:

```
def fact (n):
    fact = 1
```

```
    if n<0:
        print("Enter a non-negative number.")
    elif n==0:
        print(f"The facorial of {n} is 1.")
    else:
        for i in range (1,n+1):
            fact*=i
        print(f"The factorial of {n} is {fact}.")

def main():
    n = int(input("Enter any number: "))
    fact(n)

main()
```

QUESTION - 6:

```
def fibo(n):
    a,b=0,1
    if(n<=0):
        print("Enter a non-negative and non-zero number.")
    elif (n==1):
        print(f"The fibonacci series upto {n} is {a}.")
    else:
        print(f"The fibonacci series upto {n} are: ")
        for i in range(n):
            print(a,end=" ")
            a,b = b, a+b

def main():
    n = int(input("Enter the number of terms: "))
    fibo(n)

main()
```

QUESTION - 7:

```
def add_digits(n):
    n = abs(n) # Ensure the number is positive
    sum = 0
    while n>0:
        sum += n%10 #Adding the units digit
        n //= 10 #Remove the units digit
    return sum
```

```
def main():
    n = int(input("Enter any number: "))
    sum = add_digits(n)
    print(f"The sum of digits in {n} is {sum}.")

main()
```

QUESTION - 8:

```
def convert(f):
    c = (f-32) * 5/9
    return c

def main():
    f = float(input("Enter the temperature in Farenheit: "))
    c = convert(f)
    print(f"The temperature in Celsius is {c}")

main()
```

QUESTION - 9:

```
def quad(a,b,c):
    import math
    discriminant = b**2 - 4*a*c
    if discriminant > 0:
        x1 = (-b + math.sqrt(discriminant)/(2*a))
        x2 = (-b - math.sqrt(discriminant)/(2*a))
        return x1,x2
    elif discriminant == 0:
        x = -b / (2*a)
        return x,x
    else:
        return None

def main():
    a = 1
    b = 6
    c = 9
    roots = quad(a,b,c)
    if roots is None:
        print("The given equation has no real roots.")
    else:
```

```
    print(f"The roots of the given equation are {roots}")

main()
```

QUESTION - 10:

```
string = "Productivity challenge"
reverse = string[::-1]
print(reverse)
```