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**Assignment 3**

**Program 1**

n=int(input("Enter a number "))

sum=0

for i in range(n):

    sum+=i

print("Sum is ",sum+n)

**Output**

Enter a number 5

Sum is 15

**Program 2**

n = int(input("Enter a number "))

c = 0

d = 1

if(n <= 1):

    print("Not Prime")

else:

    for i in range(2, n, 1):

        if (n % i) == 0:

            c = c+1

    if(c == 0):

        print("Prime")

    else:

        print("Not Prime")

**Output**

Enter a number 97

Prime

**Program 3**

i=1

for i in range (1,1001,1):

    j=i

    sum=0

    while j>0:

        d=j%10

        sum+=(d\*d\*d)

        j=j//10

    if(sum==i):

        print(i,"is armstrong")

**Output**

1 is armstrong

153 is armstrong

370 is armstrong

371 is armstrong

407 is armstrong

**Program 4**

i=1

for i in range (1,1001,1):

    c=0

    for j in range(2,i,1):

        if(i%j==0):

            c=c+1

    if c==0 and i!=1:

        print(i,"is prime")

**Output of program 4**

2 is prime

3 is prime

5 is prime

7 is prime

11 is prime

13 is prime

17 is prime

19 is prime

23 is prime

29 is prime

31 is prime

37 is prime

41 is prime

43 is prime

47 is prime

53 is prime

59 is prime

61 is prime

67 is prime

71 is prime

73 is prime

79 is prime

83 is prime

89 is prime

97 is prime

101 is prime

103 is prime

107 is prime

109 is prime

113 is prime

127 is prime

131 is prime

137 is prime

139 is prime

149 is prime

151 is prime

157 is prime

163 is prime

167 is prime

173 is prime

179 is prime

181 is prime

191 is prime

193 is prime

197 is prime

199 is prime

211 is prime

223 is prime

227 is prime

229 is prime

233 is prime

239 is prime

241 is prime

251 is prime

257 is prime

263 is prime

269 is prime

271 is prime

277 is prime

281 is prime

283 is prime

293 is prime

307 is prime

311 is prime

313 is prime

317 is prime

331 is prime

337 is prime

347 is prime

349 is prime

353 is prime

359 is prime

367 is prime

373 is prime

379 is prime

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389 is prime

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401 is prime

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569 is prime

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599 is prime

601 is prime

607 is prime

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617 is prime

619 is prime

631 is prime

641 is prime

643 is prime

647 is prime

653 is prime

659 is prime

661 is prime

673 is prime

677 is prime

683 is prime

691 is prime

701 is prime

709 is prime

719 is prime

727 is prime

733 is prime

739 is prime

743 is prime

751 is prime

757 is prime

761 is prime

769 is prime

773 is prime

787 is prime

797 is prime

809 is prime

811 is prime

821 is prime

823 is prime

827 is prime

829 is prime

839 is prime

853 is prime

857 is prime

859 is prime

863 is prime

877 is prime

881 is prime

883 is prime

887 is prime

907 is prime

911 is prime

919 is prime

929 is prime

937 is prime

941 is prime

947 is prime

953 is prime

967 is prime

971 is prime

977 is prime

983 is prime

991 is prime

997 is prime

**Program 5**

a=1

b=1

c=a+b

print(a)

print(b)

while(c<=1000):

    print(c)

    a=b

    b=c

    c=a+b

**Output**

1

1

2

3

5

8

13

21

34

55

89

144

233

377

610

987

**Program 6**

c = 1

sum = 0

count = 0

while(c):

    try:

        x = input("Enter ")

        if(x == 'done'):

            print("Sum is", sum)

            print("Count is", count)

            if count != 0:

                print("Average is", sum/count)

            else:

                print("Average is", 0)

            break

        elif (x.isnumeric()==1):

            sum = sum+(int)(x)

            count = count+1

        else: flag=1

    except:

        if flag==1:

            print("Exception occured ")

**Output**

Enter 5

Enter 6

Enter y

Enter u

Enter 8

Enter done

Sum is 19

Count is 3

Average is 6.333333333333333

**Program 7**

c=1

sum=0

count=0

maxi=-2147483648

mini=2147483647

while(c):

    try:

        x=input("Enter ")

        if(x=='done'):

            print("Sum is",sum)

            print("Count is",count)

            if count!=0:

                print("Average is",sum/count)

                print("Maximum is",maxi)

                print("Minimum is",mini)

            else:

                print("Average is",0)

                print("No Max found")

                print("No Min found")

            break

        elif (x.isnumeric()==1):

            sum=sum+(int)(x)

            maxi=max(maxi,int(x))

            mini=min(mini,int(x))

            count=count+1

        else: raise Exception

    except:

        print("Exception occured")

**Output**

Enter 1

Enter 2

Enter p

Exception occured

Enter 4

Enter p

Exception occured

Enter done

Sum is 7

Count is 3

Average is 2.3333333333333335

Maximum is 4

Minimum is 1

**Program 8**

list=[1,2,3,4,5]

for x in list:

    print(x)

print("No more items found")

**Output**

1

2

3

4

5

No more items found

**Program 9**

x = int(input("Enter a number "))

if x < 0:

  raise Exception("Sorry, no numbers below zero")

print("Square root is ",x\*\*(0.5))

**Output**

Enter a number 16

Square root is 4.0

**Program 10**

try:

    x=int(input("Enter a number "))

    if(x<0):

        raise Exception("Sorry, no numbers below zero")

    else:

        print("Square is ",x\*x)

except:

    print("You should have entered a number")

**Output**

Enter a number 5

Square is 25