

**COMPUTER SCIENCE WITH PYTHON**  
**PROGRAM FILE**

NAME:

CLASS:

SECTION:

## INDEX

S.NO	TOPIC	T.SIGN												
1	#WAP Take two integer values from user and print greatest among them.													
2	A school has following rules for grading system: a. Below 25 - F b. 25 to 45 - E c. 45 to 50 - D d. 50 to 60 - C e. 60 to 80 - B f. Above 80 - A Ask user to enter marks and print the corresponding grade.													
3	A company decided to give hra,da according to the following criteria if his/her year of service is <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 20px;">no of years</td> <td style="padding-right: 20px;">hra</td> <td>da</td> </tr> <tr> <td>more than 5 years but less than 10 years</td> <td>5%</td> <td>3%</td> </tr> <tr> <td>more than and equal to 10 years but less than 20 years</td> <td>4%</td> <td>2%</td> </tr> <tr> <td>more than and equal to 20 years</td> <td>6%</td> <td>7%</td> </tr> </table> Ask user for their salary and year of service and print the net salary.	no of years	hra	da	more than 5 years but less than 10 years	5%	3%	more than and equal to 10 years but less than 20 years	4%	2%	more than and equal to 20 years	6%	7%	
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more than and equal to 20 years	6%	7%												
4	Program that demonstrate the use of Nested if- if within another if													
5	Write a program to display the first 10 natural numbers.													
6	Write a program to display n terms of natural number and their sum													
7	Write a program to display the multiplication table of a given integer.													
8	Program to demonstrate the concept of nested loop													
9	Program to count all uppercase characters													
10	Program to count no of vowels													
11	Program to convert uppercase into lowercase and vice versa and not to use built in functions													
12	Program to capitalize first and last letters of each word of a given string													
13	Write a program which should change all the multiples of 5 in the list to 5 and rest of the elements as 0.													
14	Write a code in python which divide all those list elements by 7 which are divisible by 7 and multiply list elements by 3.													
15	Write a program in python, to add 5 in all the odd values and 10 in all the even values of the list .													
16	Program to count total prime nos within the range													

17	Write a program that creates a third tuple after adding two tuples. Add second after first tuple.	
18	Program to calculate the average of the numbers of the tuple.	
19	Program to store book id, book name and price of three books and store the data in dictionary name "dict"	
20	Dictionary menu based Program	

Q1 #WAP Take two integer values from user and print greatest among them.

```
no1=eval(input("enter no1: "))
no2=eval(input("enter no2: "))
if(no1>no2):
    print("no1 is greater than no2")
elif(no2>no1):
    print("no2 is greater than no1")
elif(no1==no2):
    print("both are equal")
else:
    print("PLEASE ENTER VALID NO ONLY")
```

'''

output

enter no1: 3

enter no2: 4

no2 is greater than no1

'''

Q2 A school has following rules for grading system:

- a. Below 25 - F
- b. 25 to 45 - E
- c. 45 to 50 - D
- d. 50 to 60 - C
- e. 60 to 80 - B
- f. Above 80 - A

Ask user to enter marks and print the corresponding grade.

sol

```
m=int(input("enter marks"))
```

```
if(m<25):
```

```
    print(" Grade F")
```

```
elif(m>=25 and m<45):
```

```
    print(" Grade E")
```

```
elif(m>=45 and m<50):
```

```
    print(" Grade D")
```

```
elif(m>=50 and m<60):
```

```
    print(" Grade C")
```

```
elif(m>=60 and m<80):
```

```
    print(" Grade B")
```

```
elif(m>=80): #else:
```

```
    print(" Grade A")
```

```
#-----OR-----
```

```
m=int(input("enter marks"))
```

```
if(m<25):
```

```
    print(" Grade F")
```

```
elif(m<45):
```

```
    print(" Grade E")
elif(m<50):
    print(" Grade D")
elif(m<60):
    print(" Grade C")
elif(m<80):
    print(" Grade B")
elif(m>=80): #else:
    print(" Grade A")
```

'''

Output

enter marks76

Grade B

'''

Q3

A company decided to give hra,da according to the following criteria if his/her year of service is

no of years	hra	da
more than 5 years but less than 10 years	5%	3%
more than and equal to 10 years but less than 20 years	4%	2%
more than and equal to 20 years	6%	7%

Ask user for their salary and year of service and print the net salary.

SOL

```
n=eval(input("enter salary"))
```

```
y=int(input("enter no of years"))
```

```
if(y>=5 and y<10):
```

```
    h=n*0.05
```

```
    d=n*0.03
```

```
    #print("net salary",n+h+d)
```

```
elif(y>=10 and y<20):
```

```
    h=n*0.04
```

```
    d=n*0.02
```

```
    #print("net salary",n+h+d)
```

```
else: #elif(y>=20):
```

```
    h=n*0.06
```

```
    d=n*0.07
```

```
    #print("net salary",n+h+d)
```

```
print("net salary",n+h+d) #final output related to all condition
```

```
'''
```

output

enter salary3450

enter no of years6

net salary 3726.0

'''

Q4 #Program that demonstrate the use of Nested if- if within another if

Sol:

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

```
if(a<15):
```

```
    if(a>=0 and a<=10):
```

```
        print("age is between 0 to 10")
```

```
    else:
```

```
        print("age is greater than 10 but less than 15")
```

```
else:
```

```
    print("age is greater than 15")
```

```
'''
```

output

enter age8

age is between 0 to 10

```
'''
```



Q5

#Write a program to display the first 10 natural numbers.

sol

```
for i in range(1,11):
```

```
    print(i)
```

'''

Output

1

2

3

4

5

6

7

8

9

10

'''

Q6

'''

#Write a program to display n terms of natural number and their sum

'''

sol

```
n=int(input("enter no"))
```

```
s=0
```

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

```
    s=s+i
```

```
    print("value of natural no",i, "sum of natural no",s)
```

'''

output

```
enter no6
```

```
value of natural no 1 sum of natural no 1
```

```
value of natural no 2 sum of natural no 3
```

```
value of natural no 3 sum of natural no 6
```

```
value of natural no 4 sum of natural no 10
```

```
value of natural no 5 sum of natural no 15
```

```
value of natural no 6 sum of natural no 21
```

'''

Q 7

'''

#Write a program to display the multiplication table of a given integer.

'''

sol

```
n=int(input("enter no"))
```

```
#s=int(input("enter starting value"))
```

```
#e=int(input("enter ending value"))
```

```
for i in range(1,11):
```

```
    print(n,"x",i,"=",n*i)
```

'''

output

enter no8

8 x 1 = 8

8 x 2 = 16

8 x 3 = 24

8 x 4 = 32

8 x 5 = 40

8 x 6 = 48

8 x 7 = 56

8 x 8 = 64

8 x 9 = 72

8 x 10 = 80

'''

Q8 # Concept of nested loop

Ans

```
#-----
```

```
for i in range(4,0,-1):  
    for j in range(5,i,-1):  
        print(i,end="")  
    print()
```

```
'''
```

```
4
```

```
33
```

```
222
```

```
1111
```

```
'''
```

#another program that demonstrate the use of nested loop

```
for i in range(4):  
    for j in range(i+1):  
        print("*",end="")  
    print()
```

```
'''
```

```
*
```

```
**
```

```
***
```

```
****
```

```
'''
```

Q9

#Program to count all uppercase characters

sol

```
s=input("enter string")
```

```
c=0
```

```
for i in s:
```

```
    if (i.isupper()):
```

```
        c=c+1
```

```
print(c)
```

'''

output

```
enter stringThis is my file
```

```
2
```

'''

Q10

#Program to count no of vowels

sol

```
s=input("enter string")
```

```
c=0
```

```
for i in s:
```

```
    if i in "aeiouAEIOU":
```

```
        c=c+1
```

```
print(c)
```

'''

output

```
enter stringthis is my file
```

```
4
```

'''

Q11

# Program to display those words which are ending with capital alphabets

```
s=input("enter string")
```

```
c=0
```

```
for i in s.split():
```

```
    if i[-1].isupper():
```

```
        c=c+1
```

```
print(c)
```

```
'''
```

output

```
enter string this is mY file
```

```
2
```

```
'''
```

Q12

#Program to convert uppercase into lowercase and vice versa and not to use built in functions

S="ThiS IS mY 5678 FIle"

for i in S:

    if i>"A" and i<='Z':

        print(chr(ord(i)+32),end="")

    elif i>="a" and i<="z":

        print(chr(ord(i)-32),end="")

'''

output

tHIsIsMyfiLE

'''



Q12

#Program to capitalize first and last letters of each word of a given string

Sol

```
s=input("enter string")
```

```
r=" "
```

```
s=s.title()
```

```
for i in s.split():
```

```
    r=r+i[:i-1]+i[i-1].upper()+" "
```

```
print(r)
```

```
'''
```

output

```
enter stringthis is my file
```

```
ThiS IS MY FILE
```

```
'''
```

Q13

'''

Write a program which should change all the multiples of 5 in the list to 5 and rest of the elements as 0.

'''

Sol

```
a=[2,56,78,98,90,50,45,67]
```

```
for i in a:
```

```
    if(i%5==0):
```

```
        i=5
```

```
        print(i,end=" ")
```

```
    else:
```

```
        i=0
```

```
        print(i,end=" ")
```

'''

output

0 0 0 5 5 5 0

'''

#OR

```
a=[2,56,78,98,90,50,45,67]
```

```
for i in range(len(a)):
```

```
    if(a[i]%5==0):
```

```
        a[i]=5
```

```
    else:
```

```
        a[i]=0
```

```
print(a)
```

'''

output

[0, 0, 0, 0, 5, 5, 5, 0]

'''

Q14'''

Write a code in python which divide all those list elements by 7 which are divisible by 7 and multiply list elements by 3.

'''

Sol

```
a=[2,56,78,98,90,50,45,67]
```

```
for i in a:
```

```
    if(i%7==0):
```

```
        i=i//7
```

```
        print(i,end=" ")
```

```
    else:
```

```
        i=i*3
```

```
        print(i,end=" ")
```

'''

output

```
6 8 234 14 270 150 135 201
```

'''

#OR

```
a=[2,56,78,98,90,50,45,67]
```

```
for i in range(len(a)):
```

```
    if(a[i]%7==0):
```

```
        a[i]=a[i]/7
```

```
    else:
```

```
        a[i]=a[i]*3
```

```
print(a)
```

'''

output

```
[6, 8.0, 234, 14.0, 270, 150, 135, 201]
```

'''

Q15

'''

Write a program in python, to add 5 in all the odd values  
and 10 in all the even values of the list .

'''

```
a=[2,56,78,98,90,50,45,67]
```

```
for i in a:
```

```
    if(i%2==0):
```

```
        i=i+10
```

```
        print(i,end=" ")
```

```
    else:
```

```
        i=i+5
```

```
        print(i,end=" ")
```

'''

output

12 66 88 108 100 60 50 72

'''

Q16

'''

WAP to count total prime nos within the range

'''

```
a=int(input("enter starting no"))
```

```
b=int(input("enter ending limit"))
```

```
c=0
```

```
d=0
```

```
for a in range(a,b+1):
```

```
    for i in range(2,a):
```

```
        if(a%i==0):
```

```
            c=c+1
```

```
            break
```

```
        else:
```

```
            d=d+1
```

```
print("total not prime no",c)
```

```
print("total prime",d)
```

'''

output

enter starting no5

enter ending limit19

total not prime no 9

total prime 6

'''

Q17

'''

**WAP that creates a third tuple after adding two tuples. Add second after first tuple.**

'''

```
a=(1,2,3)
```

```
b=(4,5,6)
```

```
c=a+b
```

```
print(c)
```

'''

Output

```
(1,2,3,4,5,6)
```

'''

Q18

'''

**WAP to calculate the average of the numbers of the tuple.**

'''

```
t=eval(input("enter tuple"))
```

```
l=len(t)
```

```
a=0
```

```
s=0
```

```
for i in range(0,l):
```

```
    s=s+t[i]
```

```
a=s/l
```

```
print("average of given tuple",a)
```

'''

output

```
enter tuple1,2,3,4
```

```
average of given tuple 2.5
```

'''



Q19

'''

WAP to store book id, book name and price of three books and store the data in dictionary name "dict"

'''

```
dict={}
```

```
for i in range(3):
```

```
    b_id=int(input("enter book id:"))
```

```
    b_name=input("enter book name:")
```

```
    b_price=int(input("enter price of book:"))
```

```
    dict[b_id]=b_name,b_price
```

```
print(dict)
```

'''

OUTPUT

enter book id:1

enter book name:abc

enter price of book:450

enter book id:2

enter book name:cs with python

enter price of book:279

enter book id:3

enter book name:cs with c++

enter price of book:350

```
{1: ('abc', 450), 2: ('cs with python', 279), 3: ('cs with c++', 350)}
```

'''

Q20

'''

Dictionary Menu Based

'''

a=0

while a!=1:

    print("1. add information")

    print("2. display all information")

    print("3. search a particular info")

    print("4. delete a particular info")

    print("5. modification a particular info")

    print("6. exit")

    ch=int(input("enter your choice"))

    d={}

    if(ch==1):

        n=int(input("how many elements u want to enter"))

        for i in range(n):

            r=input("enter rollno")

            n=input("enter name")

            m=int(input("enter marks"))

            d[r]=n,m

        print(d)

    elif(ch==2):

        for i in d:

            print(i,d[i])

    elif(ch==3):

        s=input("enter the key which u want to search")

        for i in d:

            if(i==s):

```

        print(d[i])
elif(ch==4):
    s=input("enter the key which u want to search")
    for i in d:
        if(i==s):
            d.pop(s)
    print(d)
elif(ch==5):
    s=input("enter the key which u want to search")
    v=int(input("enter the value"))
    d[s]=v
    print(d)
elif(ch==6):
    a=1

```

'''

output

1. add information
2. display all information
3. search a particular info
4. delete a particular info
5. modification a particular info
6. exit

enter your choice1

how many elements u want to enter3

enter rollno1

enter namereena

enter marks70

enter rollno2

enter nameteena

enter marks80

enter rollno3

enter namesheena

enter marks89

{'1': ('reena', 70), '2': ('teena', 80), '3': ('sheena', 89)}

1. add information
2. display all information
3. search a particular info
4. delete a particular info
5. modification a particular info
6. exit

enter your choice3

enter the key which u want to search1

('reena', 70)

1. add information
2. display all information
3. search a particular info
4. delete a particular info
5. modification a particular info
6. exit

enter your choice5

enter the key which u want to modify3

enter namemeena

enter marks97

after modification dictionary is {'1': ('reena', 70), '2': ('teena', 80), '3': ('meena', 97)}

1. add information
2. display all information
3. search a particular info

4. delete a particular info

5. modification a particular info

6. exit

enter your choice4

enter the key which u want to delete2

after deletion dictionary is {'1': ('reena', 70), '3': ('meena', 97)}

1. add information

2. display all information

3. search a particular info

4. delete a particular info

5. modification a particular info

6. exit

enter your choice6

'''

Q20

”