15-12-20

Experiment No. :- 3

Date
Page

1 write a program to test a string is palindrome or not.

2 write a program to input 3 coefficient values and find the real roots.

3 Find the greatest among 3 unequal numbers.

4 Accept a digit within 0 to 6 and display the week day such as: 0 for sunday, 1 for monday etc.

5 write a program to input marks for 5 subjects (assume maximum marks for each subject is 50. Find percentage and then display grade as below.
per >=90 and <=100 grade is O
per >=80 and <90 grade is E
per >=70 and <80 grade is A
per >=60 and <70 grade is B
per >=50 and <60 grade is C
per >=0 and <50 grade is F

6 write a program to input an alphabet and check whether it is vowel or consonant

7 write a program to input two strings and check whether they are equal or not.

[redacted]

Answer :-

1
```
n = input ("Enter a string :- ")
if (n == n[::-1]):
    print (f"{n} is a Palindrome")
else:
    print (f"{n} is not a Palindrome.")
```

output :-
Enter a string :- rran
rran is a Palindrome.

2
```
import math
a = int (input ("Enter first number :- "))
b = int (input ("Enter second number :- "))
c = int (input ("Enter third number :- "))
d = b*b - 4*a*c
if d > 0:
    r1 = (-b + math.sqrt(d)) / (2*a)
    r2 = (-b - math.sqrt(d)) / (2*a)
    print ("Two real roots :- ", r1, r2)
elif d == 0:
    r = -b / (2*a)
    print ("one real root :- ", r)
else:
    print ("No real roots")
```

output :-
Enter first number :- 1
Enter second number :- -5
Enter third number :- 6
Two real roots :- 3.0 2.0

3
```
a = int(input("Enter first number:- "))
b = int(input("Enter second number:- "))
c = int(input("Enter third number:- "))
if (a>b and a>c):
    print(a, "is greatest")
elif (b>c)
    print(b, "is greatest")
else:
    print(c, "is greatest")
```

output:-

Enter first number:- 2
Enter second number:- 3
Enter third number:- 1
3 is greatest

4
```
n = int(input("Enter a day number from 0 to 6:- "))
l = ["Sunday", "monday", "Tuesday", "wednesday", "Thursday",
    "Friday", "Saturday"]
print("It is", l[n])
```

output:-

Enter a day number from 0 to 6:- 3
It is wednesday.

5 ~~a=int(input("Enter first subject mark:-"))~~
~~b=int(input("Enter second subject mark:-"))~~
~~c=int(input("Enter third~~

5 a=float(input("Enter first subject mark:-"))
b=float(input("Enter second subject mark:-"))
c=float(input("Enter third subject mark:-"))
d=float(input("Enter fourth subject mark:-"))
e=float(input("Enter fifth subject mark:-"))
sum=a+b+c+d+e
per=(sum/250)*100
if(per>=90 and per<=100):
    print("Grade is O")
elif(per>=80 and per<90):
    print("Grade is E")
elif(per>=70 and per<80):
    print("Grade is A")
elif(per>=60 and per<70):
    print("Grade is B")
elif(per>=50 and per<60):
    print("Grade is C")
elif(per>=0 and per<50):
    print("Grade is F")

output:-
Enter first subject mark:- 45
Enter second subject mark:- 40
Enter third subject mark:- 42
Enter fourth subject mark:- 43
Enter fifth subject mark:- 47
Grade is E

6 n = input ("Enter an alphabet :- ")
if (n in ['a', 'e', 'i', 'o', 'u', 'A', 'E', 'I', 'O', 'U']):
    print (n, "is a vowel.")
else:
    print (n, "is not a vowel.")

output :-
Enter an alphabet :- R
R is not a vowel.

7 a = input ("Enter first string :- ")
b = input ("Enter second string :- ")
if (a == b):
    print ["Both the strings are equal.")
else:
    print ("Both the strings are not equal")

output :-
Enter first string :- Rajesh
Enter second string :- Rajesh
Both the strings are equal.

15-12-25

Experiment No:-4 (while loop)

① write a program that prints the decimal equivalent of 1/1, 1/2, 1/3, 1/4, --- 1/100.

② write a program to test a number is prime or not.

③ write a program to find the GCD of three numbers.

④ write a program to find the sum of digits of a positive integer.

⑤ write a program to test a number is palindrome or not.

⑥ Find factorial of a number (using while loop)

⑦ print Fibonacci series up to n terms

⑧ reverse a number using while loop.

Answer:-

1
```
i=1
while (i<=100):
    print (f"1/{i} = {1/i}")
    i+=1
```

output :-
```
1/1 = 1.0
1/2 = 0.5
1/3 = 0.3333333333333333
1/4 = 0.25
1/5 = 0.2
:
```

1/98 = 0.010204081632653306

1/99 = 0.010101010101010102

1/100 = 0.01

② import math

```
n = int (input ("Enter a number :- "))
if n <= 1:
    print (f"{n} is not a prime")
else:
    i = 2
    while i <= math.sqrt (n):
        if n % i = 0:
            print (f"{n} is not a prime")
            break
        i += 1
    else:
        print (f"{n} is a prime")
```

output

Enter a number :- 15

15 is not a prime

3
```
a = int (input ("Enter first number :- "))
b = int (input ("Enter second number :- "))
c = int (input ("Enter third number :- "))
while b != 0 :
    temp = a
    a = b
    b = temp % b
while c != 0 :
    temp = a
    a = c
    c = temp % c
Print ("GCD is :- ", a)
```

output :-

Enter first number :- 4
Enter second number :- 8
Enter third number :- 12
GCD is :- 4

4
```
n = int (input ("Enter a positive integer :- "))
sum = 0
while n > 0 :
    sum += n % 10
    n //= 10
Print ("Sum of digits :- ", sum)
```

output :-

Enter a positive integer :- 12345
Sum of digits :- 15

5
```
n = int(input("Enter an integer:- "))
original = n
reverse = 0
while n > 0:
    digit = n % 10
    reverse = reverse * 10 + digit
    n //= 10
if original == reverse:
    print(f"{n} is a palindrome")
else:
    print(f"{n} is not a palindrome")
```

output:-

```
Enter an integer:- 151
151 is a palindrome
```

6
```
n = int(input("Enter a non-negative integer:- "))
if n < 0:
    print("Factorial not defined for negative numbers")
else:
    fact = 1
    i = 1
    while i <= n:
        fact *= i
        i += 1
    print("Factorial :- ", fact)
```

output:-

```
Enter a non-negative integer:- 5
Factorial :- 120
```

7
```
n=int(input("Enter number of terms :- "))
a=0
b=1
count=0
while count<n:
    print(a, end=" ")
    temp=a
    a=b
    b=temp+b
    count+=1
```

output :-
Enter number of terms :- 10
0 1 1 2 3 5 8 13 21 24

8
```
n=int(input("Enter an integer :- "))
rev=0
while n>0:
    rev = (rev*10) + (n%10)
    n //= 10
print("Reversed number :- ", rev)
```

output :-
Enter an integer :- 15
Reversed number :- 51