**Basic Assignment**

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**From Team: - 1**

1. Write a program to check whether a person is eligible to vote or not. (Accept age from user)

**Code: -**

age=int(input("Enter your age:-"))

if(age>=18):

   print("You are eligible for giving vote.")

else:

   print("You are not eligible for giving vote.")

**Output 1: -**

Enter your age:-45

You are eligible for giving vote.

**Output 2: -**

Enter your age:-17

You are not eligible for giving vote.

1. Write a program to check whether a number entered by user is even or odd.

**Code: -**

number=int(input("Enter the number:"))

if(number%2==0):

    print("The entered number",number,"is even.")

else:

    print("The entered number",number,"is odd.")

**Output 1: -**

Enter the number:23

The entered number 23 is odd.

**Output 2: -**

Enter the number:100

The entered number 100 is even.

1. Write a program to check whether a number is divisible by 7 or not.

**Code: -**

num=int(input("Enter the number:"))

if(num%7==0):

    print("The entered number",num,"is divisible by 7.")

else:

    print("The entered number",num,"is not divisible by 7.")

**Output 1: -**

Enter the number:58

The number 58 is not divisible by 7.

**Output 2: -**

Enter the number:58

The number 58 is not divisible by 7.

1. Write a program to display the last digit of a number. (Hint: any number % 10 will return the last digit)

**Code: -**

num=int(input("Enter the number:"))

print("The last digit of the entered number",num,"is",num%10)

**Output: -**

Enter the number:52

The last digit of the entered number 52 is 2

1. Write a program to calculate the electricity bill (accept number of units from user) according to the following criteria:

|  |  |
| --- | --- |
| Unit | Price |
| First 100 units | No charge |
| Next 100 units | Rs 5 per unit |
| Next 200 units | Rs 10 per unit |

(For example, if input unit is 350 than total bill amount is Rs2000)

**Code: -**

unit=int(input("Enter the unit of electricity used:"))

if(unit<=100):

    print("Net charge = Rs 0")

elif(unit>100 and unit<=200):

    net=(unit-100)\*5

    print("Your electricity bill charge is: Rs",net)

elif(unit>200):

    net1=100\*5+(unit-200)\*10

    print("Your electricity bill charge is: Rs",net1)

**Output: -**

Enter the unit of electricity used:4000

Your electricity bill charge is: Rs 38500

1. Write a program to check whether the last digit of a number( entered by user) is divisible by 3 or not.

**Code: -**

num=int(input("Enter the number:"))

print("The last digit of the entered number",num,"is",num%10)

if((num%10)%3==0):

    print("The last digit of the entered number",num,"is divisible by 3.")

else:

    print("The last digit of the entered number",num,"that is",num%10,"is not divisible by 3.")

**Output: -**

Enter the number:48

The last digit of the entered number 48 is 8

The last digit of the entered number 48 that is 8 is not divisible by 3.

1. Write a program to accept percentage from the user and display the grade according to the following criteria:

|  |  |
| --- | --- |
| Marks | Grade |
| >90 | A |
| >80 and <=90 | B |
| >=60 and <=80 | C |
| Below 60 | D |

**Code: -**

marks=float(input("Enter your marks:-"))

if marks>90:

    print("Grade:- A")

elif marks>80 and marks<=90:

 print("Grade:- B")

elif marks>60 and marks<=80:

 print("Grade:- C")

elif marks<60:

 print("Grade:- D")

**Output: -**

Enter your marks:-76

Grade:- C

1. Write a program to check whether a year is a leap year or not.

**Code: -**

year=int(input("Enter the year:"))

if(year%4==0):

    if(year%100==0):

        if(year%400==0):

           print("The year",year,"is a leap year.")

        else:

           print("The year",year,"is not a leap year.")

    else:

        print("The year",year,"is a leap year.")

else:

    print("The year",year,"is not a leap year.")

**Output: -**

Enter the year:2024

The year 2024 is a leap year.

Enter the year:1800

The year 1800 is not a leap year.

1. Write a program to accept a number from 1 to 7 and display the name of the day like 1 for Sunday, 2 for Monday and so on.

**Code: -**

value=int(input("Enter the value in between 1 to 7: "))

if(value==1):

    print("Sunday")

elif(value==2):

    print("Monday")

elif(value==3):

    print("Tuesday")

elif(value==4):

    print("Wednesday")

elif(value==5):

    print("Thursday")

elif(value==6):

    print("Friday")

elif(value==7):

    print("Saturday")

else:

    print("You have entered value out of range.")

**Output: -**

Enter the value in between 1 to 7: 5

Thursday

1. A student will not be allowed to sit an exam if his/her attendance is less than 75%. Take the following input from user: - a) Number of classes held, b)Number of classes attended. And print percentage of class attended Is student is allowed to sit in exam or not.

**Code: -**

a=int(input("Enter the total number of classes held:"))

b=int(input("Enter the number of classes you have taken:"))

percent=(b/a)\*100

print("Your class attendance percentage:",percent,end="%")

print("")

if(percent<75):

    print("You will not be allowed to sit in exam.")

else:

    print("You will be allowed to sit in exam.")

**Output: -**

Enter the total number of classes held:55

Enter the number of classes you have taken:49

Your class attendance percentage: 89.0909090909091%

You will be allowed to sit in exam.

1. Modify the above question to allow student to sit if he/she has medical cause. Ask the user if he/she has medical cause or not ('Y' or 'N') and print accordingly.

**Code: -**

med=input("Are you having the medical cause[Y/N]:")

if(med=="Y"):

    print("You are allowed to sit in exam.")

else:

   a=int(input("Enter the total number of classes held:"))

   b=int(input("Enter the number of classes you have taken:"))

   percent=(b/a)\*100

   print("Your class attendance percentage:",percent,end="%")

   print("")

   if(percent<75):

       print("You will not be allowed to sit in exam.")

   else:

       print("You will be allowed to sit in exam.")

**Output 1: -**

Are you having the medical cause[Y/N]:Y

You are allowed to sit in exam.

**Output 2:-**

Are you having the medical cause[Y/N]:N

Enter the total number of classes held:70

Enter the number of classes you have taken:60

Your class attendance percentage: 85.71428571428571%

You will be allowed to sit in exam.

1. Write a program to print the absolute value of a number entered by the user. E.g.-

INPUT: 1 => OUTPUT: 1

INPUT: -1 => OUTPUT: 1

**Code: -**

Value=int(input("Enter your value: "))

print("The entered value by the user is",Value)

if(Value<0):

   print("The absolute value is",-Value)

else:

    print("You have already entered absolute value: ",Value)

**Output: -**

Enter your value: -65

The entered value by the user is -65

The absolute value is 65

1. Take input of age of 3 people by user and determine oldest and youngest among them.

**Code: -**

print("Enter the age of 3 people")

a=int(input("Enter the age of first person: "))

b=int(input("Enter the age of second person: "))

c=int(input("Enter the age of third person: "))

if a>b>c:

    print("A is the oldest and is having the age: ",a)

    print("C is the youngest and is having the age: ",c)

elif a>c>b:

    print("A is the oldest and is having the age: ",a)

    print("B is the youngest and is having the age: ",b)

elif b>a>c:

    print("B is the oldest and is having the age: ",b)

    print("C is the youngest and is having the age: ",c)

elif b>c>a:

    print("B is the oldest and is having the age: ",b)

    print("A is the youngest and is having the age: ",a)

elif c>a>b:

    print("C is the oldest and is having the age: ",c)

    print("B is the youngest and is having the age: ",b)

elif c>b>a:

    print("C is the oldest and is having the age: ",c)

    print("A is the youngest and is having the age: ",a)

**Output: -**

Enter the age of 3 people

Enter the age of first person: 54

Enter the age of second person: 76

Enter the age of third person: 23

B is the oldest and is having the age: 76

C is the youngest and is having the age: 23

1. A school has following rules for grading system:
   1. Below 25 – F
   2. 25 to 45 – E
   3. 45 to 50 – D
   4. 50 to 60 – C
   5. 60 to 80 – B
   6. Above 80 - A

Ask the user to enter marks and print the corresponding grade.

**Code: -**

marks=float(input("Enter your marks:-"))

if marks>80:

 print("Grade:- A")

elif marks>60 and marks<=80:

 print("Grade:- B")

elif marks>50 and marks<=60:

 print("Grade:- C")

elif marks>45 and marks<=50:

 print("Grade:- D")

elif marks>25 and marks<=45:

 print("Grade:- E")

elif marks<=25:

 print("Grade:- F")

**Output: -**

Enter your marks:-66

Grade:- B

1. Ques) A shop will give a discount of 10% if the cost of purchased quantity is more than 1000. Ask the user for quantity. Suppose one unit will cost 100. Judge and print total cost for user.

**Code: -**

unit=int(input("Enter the number of units:"))

price=unit\*100

if(price>1000):

    discount=price\*(0.1)

    print("You will get the discount of: Rs",discount,)

    t\_price=price-discount

else:

    t\_price=price

print("Your net amount is: Rs",t\_price)

**Output: -**

Enter the number of units:15

You will get the discount of: Rs 150.0

Your net amount is: Rs 1350.0

1. Take values of length and breadth of a rectangle from user and check if it is square or not.

**Code: -**

len=int(input("Enter the length of the rectangle:"))

bre=int(input("Enter the breadth of the rectangle:"))

if(len==bre):

    print("It is a square of each side as",len,"cm")

else:

    print("It is not a square.")

**Output: -**

Enter the length of the rectangle:45

Enter the breadth of the rectangle:45

It is a square of each side as 45 cm

1. A company decided to give a bonus of 5% to an employee if his/her year of service is more than 5 years. Ask the user for their salary and year of service and print the net bonus amount.

**Code: -**

sal=int(input("Enter your salary:"))

ser=int(input("Enter the number of years of service:"))

if(ser>5):

    bonus=sal\*(0.05)

    print("Your 5% bonus is: Rs",bonus)

    net\_sal=sal+bonus

else:

    net\_sal=sal

print("Your net salary is: Rs",net\_sal)

**Output: -**

Enter your salary:4500

Enter the number of years of service:6

Your 5% bonus is: Rs 225.0

Your net salary is: Rs 4725.0