

### Programs

Write a program that takes an integer input from the user and checks whether the number is odd or even.

```
a = int(input("Enter the first no:"))  
if (a % 2 == 0):  
    print("the no is even")  
else:  
    print("the no is odd")
```

Output

Enter the first no: 8

~~Output~~ the no is ~~odd~~ <sup>even</sup>

Q2) Write a program that takes three numbers as input and prints the largest of three.

a = 10

b = 20

c = 30

```
if (a < b or a < c):  
    print("a is smaller")  
elif (b < a or b < c):  
    print("b is smaller")  
else:  
    print("c is smaller")
```

Output

b is smaller.

Q3) Write a program to check if a given year is a leap year.



④ Write a program that takes a percentage (integer) as input and prints the corresponding grade based on the following criteria.

72-90: Grade A  
72-80: Grade B  
72-70: Grade C  
72-60: Grade D  
72-50: Grade E

```
a = int(input("Enter the first grade:"))  
if (a >= 90):  
    print("grade A")  
elif (a >= 80):  
    print("grade B")  
elif (a >= 70):  
    print("grade C")  
elif (a >= 60):  
    print("grade D")  
elif (a >= 50):  
    print("grade E")  
else:  
    print("Enter a valid grade")
```

⑤ Write a program that checks if a given letter is a vowel (a, e, i, o, u) or a consonant.

```
ch = str(input("Enter the letter:"))  
if (ch == 'a'):  
    print("vowels")  
elif (ch == 'e'):  
    print("vowels")  
elif (ch == 'i'):  
    print("vowels")  
elif (ch == 'o'):  
    print("vowels")  
elif (ch == 'u'):  
    print("vowels")  
else:  
    print("Consonants")
```

6) Write a basic Calculator program that takes two numbers and an operator (+, -, \*, /) as input and performs the specified operation. Print the result based on operation.

```
a = int(input("Enter the number:"))  
b = int(input("Enter the second number:"))  
c = a + b  
print(c)  
a = int(input("Enter the number:"))  
b = int(input("Enter the second number:"))  
c = a - b  
print(c)  
a = int(input("Enter the number:"))  
b = int(input("Enter the second number:"))
```



```

c = a * b
print(c)
a = int(input("Enter the number:"))
b = int(input("Enter the second number:"))
print(c)
c = a / b
print(c)

```

Q7) Write a program that takes a number as input and checks whether it is positive, negative, or zero.

```

a = 1
if (a > 0):
    print("the no is positive")
elif (a < 0):
    print("the no is negative")
elif (a == 0):
    print("the no is zero")
else:
    print("Enter the correct no")

```

Q8) Write a program that checks if a username and password entered by the user match the pre-set values username = "admin" and password = "1234". If both match print "Login successful". Otherwise print "Login failed".

```

a = str(input("Enter a username:"))
b = int(input("Enter a password:"))
if (a == 'admin' and b == 1234):
    print("login successfully")
else:
    print("login failed")

```

Q9) Write a program that takes three sides of a triangle as input and checks if those sides form a valid triangle. A triangle is valid if the sum of any two sides is greater than the third side.

Check conditions for  $a + b > c$ ,  $b + c > a$ , and  $a + c > b$

```

a = float(input("Enter the first side:"))
b = float(input("Enter the second side:"))
c = float(input("Enter the third side:"))
if (a + b > c and b + c > a and a + c > b):
    print("A triangle is valid triangle")
else:
    print("not valid")

```



10) write a program that calculates the discount for a product based on its price.

If price is greater than 1000, discount is 10%  
If price is between 500 and 1000, discount is 5%  
Otherwise, no discount

Print the final price after applying the discount.

```
a = int(input("Enter the price:"))  
b = int(input("Enter the quantity:"))  
c = a * b  
if (c > 1000):  
    print("The discounted amount is 10% off", c - (c * 10 / 100))  
elif (c > 500 and c < 1000):  
    print("The discounted amount is 5% off", c - (c * 5 / 100))  
else:  
    print("not discounted")
```

11) write a program that takes the name of a month as input and prints the number of days in that month. Consider leap years for February.

```
a = 'jun'  
if (a == 'jan' or a == 'mar' or a == 'may' or a == 'july' or a == 'sep' or a == 'nov'):  
    print("It contains 31 days")  
elif (a == 'feb'):  
    print("It contains 29 days as it is a leap year")  
elif (a == 'april' or a == 'jun' or a == 'aug' or a == 'oct' or a == 'dec'):  
    print("It contains 30 days")  
else:  
    print("Enter a valid month")
```

12) write a program that simulates a simple ATM. The user should be able to check balance, deposit money, withdraw money (ensure the balance doesn't go negative) via an if-else structure to handle the user's choices.

```
a = int(input("Enter number 1, 2, 3 ="))  
if (a == 1):  
    print("Check Balance")  
elif (a == 2):  
    print("Deposit money")  
elif (a == 3):  
    print("Withdraw money")  
else:  
    print("Enter valid no")
```



13) write a program to read cat ages & given age into different groups:

Infant (0-1) year  
Toddler (2-4) year  
Child (5-12) year  
Teenager (13-19) year  
Adult (20-59) year  
Senior (60 year or above)

14) write a program that takes an integer (1-7) as input and prints the corresponding day of week (1 for Monday, 2 for Tuesday, etc.)

Day = 1

if (day == 1):

print("Monday")

elif (day == 2):

print("Tuesday")

elif (day == 3):

print("Wednesday")

elif (day == 4):

print("Thursday")

elif (day == 5):

print("Friday")

elif (day == 6):

print("Saturday")

elif (day == 7):

print("Sunday")

else:

print("Enter the valid input")

15) write a program that takes an integer (1-7) as input and prints the corresponding given year into different group

16) Infant (0-1) year      Toddler (2-4) year      Child (5-12) year      Teenager (13-19) year  
Adult (20-59) year      Senior (60 or above)

age = 12

if (0 < age < 2):

print("Infant")

elif (2 <= age < 5):

print("Toddler")

elif (5 <= age < 13):

print("Child")

elif (13 <= age < 20):

print("Teenager")

elif (20 <= age < 60):

print("Adult")

else:

print("Senior")