```python
# Q1 Write a program that takes an integer input from the user and checks whether the number is odd or even.
num =int(input())
if num%2==0:
    print('even')
else:
    print('odd')
```

```
 68
```

```
even
```

```python
#Q2 Write a program that takes three numbers as input and prints the largest of the three.
x=int(input('x:'))
y=int(input('y:'))
z=int(input('z:'))
if x>y and x>z:
    print('x is largest')
elif y>x and y>z:
    print('y is largest')
else:
    print('z is greater')
```

```
x: 9
y: 10
z: 5
```

```
y is largest
```

```python
# Q3 Write a program to check if a given year is a leap year. A leap year is divisible by 4 but not by 100 unless it is also divisible by 400.
year=int(input())
if (year%4==0 and year%100!=0) or (year%100==0 and year%400==0):
    print('leap year')

else:
    print('not leap year')
```

```
 2000
```

```
leap year
```

```python
# Q4 Write a program that takes a percentage (integer) as input and prints the corresponding grade based
# on the following criteria:
# >= 90: Grade A
# >= 80: Grade B
# >= 70: Grade C
# >= 60: Grade D
```

```
# < 60: Grade F

per= int(input())
if per>=90:
    print('Grade A')
elif per>=80:
    print('Grade B')
elif per>=70:
    print('Grade C')
elif per>=60:
    print('Grade D')
elif per<60:
    print('Grade F')
else:
    print('not valid')
```

```
 98
```

```
Grade A
```

```
# Q5 Write a program that checks if a given letter is a vowel (a, e,
i, o, u) or a consonant.
n= input()
if n=='a' or n=='e' or n=='i' or n=='o' or n=='u':
    print('vowel')
else:
    print("consonent")
```

```
 t
```

```
consonent
```

```
# Q6 Write a basic calculator program that takes two numbers and an
operator (+, -, *, /) as input and performs the specified operation.
Print the result based on the operation.
n1 =int(input())
n2 = int(input())
op=input('enter op + , - , * , /')
if op == '+':
    print(n1+n2)
elif op == '-':
    print(n1-n2)
elif op == '*':
    print(n1*n2)
elif op == '/':
    print(n1/n2)
else:
    print('not valid')
```

```
 5
 9
enter op + , - , * , / /
```

```
0.5555555555555556
```

```
# Q7 Write a program that takes a number as input and checks whether
it is positive, negative, or zero.
n= int(input())
if n>0:
    print('positve')
elif n<0:
    print('negative')
else:
    print('zero')
```

```
 -4
```

```
negative
```

```
# 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".
username = "admin"
password = "1234"
if username=="admin" and password == "1234":
    print("login successfull")
else:
    print("login failed")
```

```
login successfull
```

```
# 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 like a + b > c, b + c > a, and a + c > b.

a=int(input())
b=int(input())
c=int(input())

if a+b>c or b+c >a or a+c>b:
    print("triangle valid")
else:
    print("not valid")
```

```
 5
 5
 5

triangle valid
```

```python
# Q10 Write a program that calculates the Body Mass Index (BMI) based
on user input for weight (in
# kilograms) and height (in meters). Then categorize the BMI into:
# Underweight (BMI < 18.5)
# Normal weight (18.5 <= BMI < 24.9)
# Overweight (25 <= BMI < 29.9)
# Obesity (BMI >= 30)
# Use the formula: BMI = weight / (height ** 2)
weight = int(input("enter weight in kilogram:"))
height= int(input("enter height in meters:"))
BMI = weight/(height**2)
print(BMI)
if (BMI < 18.5):
    print("underweight")
elif (18.5 <= BMI<24.9):
    print("normal weight")
elif(25<= BMI <29.9):
    print("overweight")
elif(BMI >=30):
    print("obesity")
else:
    print("not valid")
```

```
enter weight in kilogram: 56
enter height in meters: 5

2.24
underweight
```

```python
# Q11 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.

price= int(input("enter price:"))
if price>1000:
    dis = price/100*10
    final_price = price-dis
    print(dis)
    print(final_price)

elif price>=500 and price<=1000:
```

```
    dis = price/100*5
    final_price = price-dis
    print(dis)
    print(final_price)
else:
    print("no discount:",price)
```

```
enter price: 700
```

```
35.0
665.0
```

```
# Q12 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.
m = input("enter month")
if m=='january' or m=='march' or m=='may' or m=='july' or m=='august'
or m=='october' or m=='december':
    print("31 days")
elif m=='april' or m=='june' or m=='september' or m=='november':
    print("30 days")
elif m=='february':
    print("29 days in leap year")
else:
    print("not valid")
```

```
enter month july
```

```
31 days
```

```
# Q13 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) Use an if-
else structure to handle the user's choices
balance = 1000.00
choice = input("\nPlease select an option (1-4): ")
if choice == '1':
    print(f"\nYour current balance is: {balance:.2f}")

elif choice == '2':
    print("deposit money")
elif choice == '3':
    print("withdraw money")
elif choice == '4':
    print("\nThank you for using the ATM. Goodbye!")

else:
    print("Invalid option. Please try again.")
```

```
Please select an option (1-4):  1


Your current balance is: 1000.00
```

```
# Q14 Write a program that categorizes a given age into different
groups:
# Infant (0-1 year)
# Toddler (2-4 years)
# Child (5-12 years)
# Teenager (13-19 years)
# Adult (20-59 years)
# Senior (60 years and above)

age =int(input("enter age"))
if age==0 and age==1:
    print('infant')
elif age>=2 and age<=4:
    print("toddler")
elif age>=5 and age<=12:
    print("child")
elif age>=13 and age<=19:
    print("teenager")
elif age>=20 and age<=59:
    print("adult")
elif age>=60:
    print("senior")
```

```
enter age 56
```

```
adult
```

```
# Q15 Write a program that takes an integer (1-7) as input and prints
the corresponding day of the week (1
# for Monday, 2 for Tuesday, etc.).
n=int(input("enter number (1-7):"))
if n==1:
    print("monday")
elif  n==2:
    print("tueday")
elif  n==3:
    print("wednesday")
elif  n==4:
    print("thursday")
elif  n==5:
    print("friday]")
elif  n==6:
    print("saturday")
elif  n==7:
    print("sunday")
```

```
enter number (1-7): 7
sunday
```