LAB#04

Decisions

Objective:

To get familiar with the concept of conditional statement for simple decision making.

Exercise:

A. Point out the errors, if any, in the following Python programs

```
# 1. Code
a = 500,b,c;
if ( a >= 400 ):
 b = 300
 c = 200
 print( "Value is:", b, c )


# Error: Incorrect multiple assignment on the first line.
```

```
# 2. Code
&number = eval(input("Enter an integer: "))
print(type(number))
if number % 5 == 0
 print("HiFive")
else
 print("No answer")

# Error: Invalid variable name `&number` and missing colons after
```

```
# 3. Code
if score >= 60.0
 grade = 'D'
elif score >= 70.0
 grade = 'C'
elif score >= 80.0
 grade = 'B'
elif score >= 90.0
 grade = 'A'
else:
 grade = 'F'

# Error: Missing colons after `if`, `elif`, and `else`.
```

B. What would be the output of the following programs:

```
1  # 1. Code:
2  requested_topping = 'mushrooms'
3  if requested_topping != 'anchovies':
4      print("Hold the anchovies!")
5
6  # 2. Code:
7  num = 3
8  if num >= 0:
9      print("Positive or Zero")
10 else:
11     print("Negative number")
```

Output of Code 01 and 02

```
>>> %Run -c $EDITOR_CONTENT

 Hold the anchovies!
 Positive or Zero
```

```
1  # 3. Code:
2  age = 15
3  if age < 4:
4      price = 0
5  elif age < 18:
6      price = 1500
7  else:
8      price = 2000
9  print("Your admission cost is Rs" + str(price) + ".")
```

Output of Code 03

```
>>> %Run -c $EDITOR_CONTENT

 Your admission cost is Rs1500.
```

C. Write Python programs for the following:

```python
# 1. Write a program to find out whether an input integer is odd o
num = int(input("Enter an integer: "))
if num % 2 == 0:
    print(f"{num} is an even number.")
else:
    print(f"{num} is an odd number.")
# Example Output:
# 10 is an even number.
```

Code 02 and Code 03 are below, respectively:

```python
y = int(input("Enter your years of service: "))
q = input("Enter your qualification (Masters/Bachelors): ")

if y >= 10:
    if q == "Masters":
        s = 150000
    elif q == "Bachelors":
        s = 100000
    else:
        s = "Invalid qualification"
elif y < 10:
    if q == "Masters":
        s = 100000
    elif q == "Bachelors":
        s = 70000
    else:
        s = "Invalid qualification"
else:
    s = "Invalid input for years of service"

if isinstance(s, int):
    print(f"Your salary is: {s}")
else:
    print(s)
# Example Output:
# Your salary is: 70000
```

Output of Code 02:

```
>>> %Run -c $EDITOR_CONTENT

    Enter your years of service: 5
    Enter your qualification (MS/BS): bachelors
    Your salary is: 70000
```

```python
# 3. Write an if-elif-else chain that determines
age = int(input("Enter the person's age: "))

if age < 2:
    print("The person is a baby.")
elif age < 4:
    print("The person is a toddler.")
elif age < 13:
    print("The person is a kid.")
elif age < 20:
    print("The person is a teenager.")
elif age < 65:
    print("The person is an adult.")
else:
    print("The person is an elder.")
# Example Output:
# The person is a teenager.
```

Output of Code 03:

```
>>> %Run -c $EDITOR_CONTENT

    Enter the person's age: 15
    The person is a teenager.
```