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Section : A (41)

②

Q1: Write a python program to count consonants in a string.

```
str = input("Enter any string")
```

```
consonant = 0
```

```
for x in str:
```

```
    if x == "a" or x == "A" or x == "e" or x == "E"  
       or x == "i" or x == "I" or x == "o" or x == "O"  
       or x == "u" or x == "U":
```

```
        continue
```

```
    else:
```

```
        consonant = consonant + 1
```

```
print("The total number of consonants are", consonant)
```


③

Q2: Write a python program to convert decimal into binary numbers. (using functions)

```
num = input("Enter any decimal number")
```

```
def dtb(num):
```

```
    if num > 1:
```

```
        dtb(num // 2)
```

```
    print(num % 2, end = " ")
```

```
dtb(num)
```

Q3: Explain the following with example.

- i - Rules for constructing variable names.
- ii - Syntax error, logical error and runtime error.

i - Rules for constructing variables:

a, A variable name must start with a letter or the underscore character.

nashra, _nashra, Nashra, -Nashra

b, A variable name cannot start with a number.

2nashra, 14roll no; 555ticket

c, A variable name can only contain alphanumeric characters and underscores (A-Z, 0-9, and _).

hello_world, CT_032, rollno_32

d, Variable names are case-sensitive.

programm

Program

PROGRAM

} they are three different variables

ii- Syntax Error:

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Syntax errors are those types of errors in which we ~~are~~ mistakenly write something not regarding to the actual structure. The creator of languages already gave us the way of writing a specific piece of code.

Example:

```
print("Hello World")
```

```
print (Hello World) → It will show a  
syntax error.
```

Logical Error:

This is the most difficult type of error as it won't catch by the compiler. It is the error which occurs in our own thoughts (logic).

Example: Suppose we have to add two numbers but we mistakenly write '-' instead of '+'.
$$c = a - b$$

Runtime error:

A runtime error is a program error that occurs while the program is running. There could be many runtime errors. For example:

```
a = 0
```

```
while (a != 10):
```

```
    print("Hello")
```

} This program won't stop. It will run infinite times.

Q4: Write a python program to print the following patterns (using Nested For loop).

```
* * * * *
* * * *
* * *
* *
*
```

The above pattern is generated when user enters the number 5.

```
num = int(input("Enter any number"))
for x in range(0, num + 1):
    for y in range(num - x, 0, -1):
        print(" * ", end = " ")
    print("\n")
```

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Q5 what will be the output.

Program # 01:

Output:

abcd

Program # 02:

Output:

0
1
2
0

Program # 03:

Output:

24

Program # 04:

Output:

A = 2