

Topic: Expressions and Assignment statements

1. Write program that contains the following expressions and verify that the results are as expected. Use your own initialised values for variables and change the operators symbol according to the implementation language.

- a. $p * q - 1 + r$
- b. $p * (q - 1) / r \bmod s$
- c. $(p - q) / r \& (s * t / p - 3)$
- d. $-p + q$

Note: Assume the precedence rule of the implementation language used.

2. Write a C program that has the following statements:

```
int x, result;
x = 5;
result = x + assign();
printf("With the function call on the right, ");
printf("result is: %d\n", result);

result = assign() + x;
printf("With the function call on the left, ");
printf("result is: %d\n", result);
```

and define fun to add 10 to a. Are the results as your expectation? Explain.

3. Consider the following Java statements

```
int k = 1;
int[] a = {1};
k += (k = 4) * (k + 2);
a[0] += (a[0] = 4) * (a[0] + 2);
```

Print the values for k and a[0]. Do you expect the results to be so? Explain.

Note: Change the syntax accordingly if you want to have it implemented in C instead of Java