

SET No 1

Write the results of the following program execution:

```
#include <stdio.h>
#define PRINT3(x,y,z,q) printf("x=%d\ty=%d\tz=%d\tq=%d\n",x,y,z,q)

int main()
{
    int x, y, z, q;

    x = y = z = 1;
    q = ++x || ++y && ++z; PRINT3 (x, y, z, q);
    /* x=2 y=1 z=1 since the expression is equivalent to
       ++x || (++y && ++z); */

    x = y = z = 1;
    q = ++x && ++y || ++z; PRINT3 (x, y, z, q);
    /* x=2 y=2 z=1 since the expression is equivalent to
       (++x && ++y) || ++z; */

    x = y = z = 1;
    q = ++x && ++y && ++z; PRINT3 (x, y, z, q);
    /* x=2 y=2 z=2 */

    x = y = z = 1;
    q = ++x || ++y || ++z; PRINT3 (x, y, z, q);
    /* x=2 y=1 z=1 */

    x = y = z = 0;
    q = ++x && ++y || ++z; PRINT3 (x, y, z, q);
    /* x=1 y=1 z=0 */

    x = y = z = 0;
    q = ++x || ++y && ++z; PRINT3 (x, y, z, q);
    /* x=1 y=0 z=0 */

    x = y = z = 0;
    q = ++x && ++y && ++z; PRINT3 (x, y, z, q);
    /* x=1 y=1 z=1 */

    x = y = z = 0;
    q = ++x || ++y || ++z; PRINT3 (x, y, z, q);
    /* x=1 y=0 z=0 */

    x = y = z = -1;
    q = ++x && ++y || ++z; PRINT3 (x, y, z, q);
    /* x=0 y=-1 z=0 */

    x = y = z = -1;
    q = ++x || ++y && ++z; PRINT3 (x, y, z, q);
    /* x=0 y=0 z=-1 */

    x = y = z = -1;
    q = ++x && ++y && ++z; PRINT3 (x, y, z, q);
    /* x=0 y=-1 z=-1 */

    x = y = z = -1;
    q = ++x || ++y || ++z; PRINT3 (x, y, z, q);
    /* x=0 y=0 z=0 */

    return 0;
}
```

ANSWERS:

```
x=2 y=1 z=1 q=1
x=2 y=2 z=1 q=1
x=2 y=2 z=2 q=1
x=2 y=1 z=1 q=1
x=1 y=1 z=0 q=1
x=1 y=0 z=0 q=1
x=1 y=1 z=1 q=1
x=1 y=0 z=0 q=1
x=0 y=-1 z=0 q=0
x=0 y=0 z=-1 q=0
x=0 y=-1 z=-1 q=0
x=0 y=0 z=0 q=0
```