Assignment Solutions | Pointers | Week 4

1. Write a program to find out the product of two numbers using pointers.

Solution :

```cpp
#include <bits/stdc++.h>

int main() {

    int x, y;
    cin >> x >> y;

    int *ptrX, *ptrY;
    ptrX = &x;
    ptrY = &y;

    int ans;
    int *ptrAns = &ans;
    *ptrAns = (*ptrX) * (*ptrY);

    cout << *ptrAns << endl;

    return 0;
}
```

2. `int *p, q;` What does both of these terms signify?

Solution :

`p is a pointer and q is an integer. * is grouped with variables, not data types.`

3. Predict the output of the following code snippet.

```cpp
int a = 10, b = 20;
int *ptr = &a;
b = *ptr + 1;
ptr = &b;
cout << *ptr << ' ' << a << ' ' << b;
```

Solution :

```
11 10 11
```

```
ptr points to a, b = a + 1 , so ptr points to b
```

4. Predict the output of the following code snippet.

```
int a = 15, b = 20;
int *ptr = &a;
int *ptr2 = &b;
*ptr = *ptr2;
```

Solution :

```
a gets the value of b
```

6. Predict the output of the following code snippet.

```
int a = 10, b = 20;
int *ptr;
*ptr = 5;
```

Solution :

```
The program is correct and will compile but might result in runtime error.This is
because ptr will have a garbage address which might even point to a location which
does not belong to our program and hence might result in Segmentation Fault when we
are trying to access it.
```