**Day 66/180 Double Pointer in c++**

**1: What is the difference between static memory allocation and dynamic memory allocations?**

**2: Predict the output without running it on compiler**

void modifyString(char \*str)

{

while (\*str)

{

if (\*str >= 'a' && \*str <= 'z')

{

\*str = \*str - 'a' + 'A';

}

str++;

}

}

int main()

{

char myString[] = "hello World";

modifyString(myString);

cout << myString;

return 0;

}

**3: Predict the output:**

void concatenateAndPrint(char \*str1, const char \*str2)

{

while (\*str1)

{

str1++;

}

while ((\*str1 = \*str2))

{

str1++, str2++;

}

}

int main()

{

char first[] = "Good";

const char second[] = "Morning";

concatenateAndPrint(first, second);

cout << first;

return 0;

}

**4: Predict the output without running it on compiler:**

void reverseString(char \*str)

{

char \*end = str;

while (\*end)

{

end++;

}

end--;

while (str < end)

{

char temp = \*str;

\*str = \*end;

\*end = temp;

str++, end--;

}

}

int main()

{

char myString[] = "Programming";

reverseString(myString);

cout << myString;

return 0;

}

**5:** **Predict Output without running it on Compiler**

void updateValues(int \*a, int \*b) {

\*a += \*b;

\*b = abs(\*a - 2 \* (\*b));

}

int main() {

int x = 5, y = 3;

updateValues(&x, &y);

cout << x << " " << y;

return 0;

}

**6:**

void countVowelsAndConsonants(const char \*str, int &vowels, int &consonants) {

vowels = consonants = 0;

while (\*str) {

char ch = tolower(\*str);

if (isalpha(ch)) {

if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {

vowels++;

} else {

consonants++;

}

}

str++;

}

}

int main() {

const char \*text = "Hello, World!";

int numVowels, numConsonants;

countVowelsAndConsonants(text, numVowels, numConsonants);

cout << "Vowels: " << numVowels << ", Consonants: " << numConsonants;

return 0;

}

**6:**

void foo(int \*i, int\*j) {

\*i = \*i + \*j;

\*j = \*i - \*j;

\*i = \*i - \*j;

}

int main()

{

int a = 4, b = 5;

foo(&a, &b);

cout<<a<<b;

}