



```
#include<stdio.h>

int main()
{
    int v1 = 10;
    int v2 = 25;
    int* p1 = &v1;
    int* p2 = &v2;
    *p1 += *p2;
    p2 = p1;
    *p2 = *p1 + *p2;
    printf("%d %d", v1, v2);
    return 0;
}
```

1.) Write the output of above program



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Pointers: Introduction - 4

What will be the output of the program?

```
int main()
{
    int i=3, *j, k;
    j = &i;
    printf("%d\n", i**j*i+j);
    return 0;
}
```

Choose any one

- ☐ 3
- ☐ 27
- ☐ 9
- ☒ 30 ✓ correct answer



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Pointers: Introduction - 5

What will be the values of x, y and z after execution of below program:

```
#include<stdio.h>
int main()
{
    int x=30, *y, *z;
    y=&x;      /* Assume address of x is 1000 and integer is 4 byte size */
    z=y;
    *y++=*z++;
    x++;
    return 0;
}
```

Your answers

1.) x =

31



2.) y =

1004



3.) z =

1004



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Pointers: Introduction - 6

What will be the output of below program?

```
int main()
{
    char *p;
    p="d\n";
    p = p+2;
    printf("%c", *(p-2));
    return 0;
}
```

Choose any one

- ☒ % ✓ correct answer
- ☐ d
- ☐ \n
- ☐ Syntax Error



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Pointers: Arithmetic with Pointers- 2

What will be the output of below codes:

(assumption: all #include and the rest of the code are correct)

Your answers

```
1.) int myInt1 = 3, myInt2 = 3;
    int *pnt1 = &myInt1, *pnt2 = &myInt2;
    myInt1 = (*pnt1) + (*pnt1);
    myInt2++;
    myInt2 = (*pnt2) + (*pnt2);
    cout<< myInt1<<myInt2;
```

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```
2.) int myInt1 = 3, myInt2 = 3;
    int *pnt1 = &myInt1, *pnt2 = &myInt2;
    myInt1 = ++(*pnt1) + (*pnt1);
    myInt2++;
    myInt2 = (*pnt2) + (*pnt2);
    cout<< myInt1<<myInt2;
```

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Pointers: Arithmetic with Pointers- 2

What will be the output of below codes:

(assumption: all #include and the rest of the code are correct)

Your answers

```
2.) int myInt1 = 3, myInt2 = 3;  
    int *pnt1 = &myInt1, *pnt2 = &myInt2;  
    myInt1 = ++(*pnt1) + (*pnt1);  
    myInt2++;  
    myInt2 = (*pnt2) + (*pnt2);  
    cout<< myInt1<<myInt2;
```

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```
3.) int myInt1 = 3, myInt2 = 3;  
    int *pnt1 = &myInt1, *pnt2 = &myInt2;  
    myInt1 = (*pnt1)++ + (*pnt1);  
    myInt2 = (*pnt2) + (*pnt2);  
    cout<< myInt1<<myInt2;
```

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Memory Management in C++ : 1

Which of the following is true about new when compared with malloc: (State True / False)

Your answers

1.) new is an operator, malloc is a function

True



2.) new calls constructor, malloc doesn't

True



3.) new returns appropriate pointer, malloc returns void * and pointer needs to typecast to appropriate type.

True



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Memory Management in C++ : 1

Which of the following is true about new when compared with malloc: (State True / False)

Your answers

2.) new calls constructor, malloc doesn't

True



3.) new returns appropriate pointer, malloc returns void * and pointer needs to typecast to appropriate type.

True



4.) malloc calls constructor, new doesn't

False



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Memory Management in C++ : 2

Which of the following will compile successfully: (State Yes / No)

Your answers

1.) `#include <iostream>`
`using namespace std;`

```
class Test
{
    int x;
    Test() { x = 5;}
};
```

```
int main()
{
    Test *t = new Test;
    cout << t->x;
}
```

No



2.) `#include <iostream>`
`using namespace std;`



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Memory Management in C++ : 2

Which of the following will compile successfully: (State Yes / No)

Your answers

No



2.) #include <iostream>
using namespace std;

```
class Test  
{  
    public:  
    int x;  
    Test() { x = 5;}  
};
```

```
int main()  
{  
    Test *t = new Test;  
    cout << t->x;  
}
```

Yes





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Memory Management in C++ : 3

Which of the following is true about delete in C++: (State True / False)

Your answers

1.) delete can be used for a NULL pointer safely

True



2.) delete should not be called for a pointer pointing to the memory allocated using malloc.

True



3.) delete should not be called for a pointer pointing to the memory allocated using new operator.

False



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Memory Management in C++ : 4

What is the output of the following code fragment:

```
void SetElements( int index, int **array, int value = 0)
{
    (*array)[*(&index)] = value;
};
int main()
{
    int *point1, *point2;
    point1 = new int[1];
    point2 = new int[2];
    *point1 = 0;
    SetElements(*&point1, &point2);
    point1[0] = 1;
    SetElements(*&point1, &point2, *point1 );
    cout<< point2[( *point1)]<<point2[( *point1)-1]<<endl;
    delete[] point1;
    delete[] point2;
}
```

Choose any one

- ☐ 11
- ☒ 10 ✓ correct answer
- ☐ 01
- ☐ 00



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Memory Management in C++ : 5

The values of the following variables are a, b, c and number of memory leaks in the program below is:

```
void ModifyVariables(int a, int &b, int *c)
{
    a = b;
    b+=a;;
    c = new int(b);
    (*c)++;
}
int main()
{
    int a=0,b=1, *c;
    c = new int(2);
    ModifyVariables(a,b,c);
    cout<<a<<b<<*c;
    delete c;
}
```

Your answers

1.) a =

0



2.) b =

2



3.) c =

2





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Memory Management in C++ : 5

The values of the following variables are a, b, c and number of memory leaks in the program below is:

```
void ModifyVariables(int a, int &b, int *c)
{
    a = b;
    b+=a;;
    c = new int(b);
    (*c)++;
}
int main()
{
    int a=0,b=1, *c;
    c = new int(2);
    ModifyVariables(a,b,c);
    cout<<a<<b<<*c;
    delete c;
}
```

Your answers

2.) b =

2



3.) c =

2



4.) memory leak =

1





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Memory Management in C++ : 6

What does the following code fragment in C++ do? (assumption: all #include and the rest of the code are correct)

```
void Pointer(int *p) {
    (*p)++;
    Reference(*p);
    cout<<*p;
}
void Reference( int &p) {
    p++;
    Value(p);
    cout<<p;
}
void Value (int p) {
    p++;
    cout<<p;
}
int main() {
    int value =3;
    Pointer(&value);
    cout<<value;
}
```

Choose any one

- ☐ 6565
- ☒ 6555 ✓ correct answer
- ☐ 5656
- ☐ 6566