POINTERS & DYNAMIC MEMORY ALLOCATTION

```
#include <iostream>
#include <cstdlib>
                                                                                                              Program
using namespace std;
                                                                                                              code
void main(void)
 int *p; ___
 cout << (long)&p << endl;</pre>
 cout << p << endl;</pre>
                                                                                                              Stack
 p = (int*)malloc(3 * sizeof(int));
 cout << (long)p << endl;</pre>
  *p = 10;
 p[1] = 17;
 *(p + 2) = 23;
                                                                                                              Heap
 for (size t i = 0; i < 3; i++) cout << p[i] << endl;</pre>
 free(p);
                                                                                                              Free
 cout << (long)p << endl;</pre>
                                                                                                              store
 for (size_t i = 0; i < 3; i++) cout << p[i] << endl;</pre>
```

MEMORY

MEMORY POINTERS & DYNAMIC MEMORY ALLOCATTION PROGRAM OUTPUT 9042388 #include <iostream> CCCCCCC #include <cstdlib> 10604760 Program using namespace std; code void main(void) 10604760 572662307 9042388 int *p; cout << (long)&p << endl;</pre> cout << p << endl; Stack p = (int*)malloc(3 * sizeof(int)); cout << (long)p << endl;</pre> *p = 10;p[1] = 17;*(p + 2) = 23;Heap for (size t i = 0; i < 3; i++) cout << p[i] << endl;free(p); Free cout << (long)p << endl;</pre> store for (size_t i = 0; i < 3; i++) cout << p[i] << endl;</pre>

MEMORY POINTERS & DYNAMIC MEMORY ALLOCATTION PROGRAM OUTPUT 9042388 #include <iostream> CCCCCCC #include <cstdlib> 10604/60 Program using namespace std; code void main(void) 10604760 572662307 p 9042388 9042391 int *p; 572662307 cout << (long)&p << endl;</pre> 572662307 cout <<p>(p)<< endl; ←</p> hexadecimal Stack p = (int*)malloc(3 * sizeof(int)); cout << (long)p << endl;</pre> *p = 10;p[1] = 17;*(p + 2) = 23;Heap for (size t i = 0; i < 3; i++) cout << p[i] << endl;free(p); Free cout << (long)p << endl;</pre> store for (size_t i = 0; i < 3; i++) cout << p[i] << endl;</pre>

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MEMORY POINTERS & DYNAMIC MEMORY ALLOCATTION PROGRAM OUTPUT 9042388 CCCCCCC #include <iostream> #include <cstdlib> 10604760 Program using namespace std; code 17 void main(void) 10604760 -572662307 9042388 9042391 int *p; cout << (long)&p << endl; cout << p << endl;</pre> Stack p = (int*)malloc(3 * sizeof(int)); cout << (long(p)<< endl;</pre> *p = 10;10604760 p[1] = 17;*(p + 2) = 23;Heap for (size t i = 0; i < 3; i++) cout << p[i] << endl;free(p); Free cout << (long)p << endl;</pre> store for (size_t i = 0; i < 3; i++) cout << p[i] << endl;</pre>

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PROGRAM OUTPUT

```
9042388
#include <iostream>
                                                     ccccccc
#include <cstdlib>
                                                     10604760
using namespace std;
void main(void)
                                                     10604760
                                                      572662307
  int *p;
  cout << (long)&p << endl;</pre>
  cout << p << endl;</pre>
  p = (int*)malloc(3 * sizeof(int));
  cout << (long)p << endl;</pre>
  *p = 10;
  p[1] = 17;
  *(p + 2) = 23;
  for (size t i = 0; i < 3; i++) cout \langle \langle p[i] \rangle \langle endl \rangle;
  free(p);
  cout << (long)p << endl;</pre>
  for (size_t i = 0; i < 3; i++) cout << p[i] << endl;</pre>
```

Program code

MEMORY

9042388 9042391 10604760

10604760

Stack

Heap
/
Free
store

MEMORY POINTERS & DYNAMIC MEMORY ALLOCATTION PROGRAM OUTPUT 9042388 #include <iostream> ccccccc #include <cstdlib> 10604760 Program using namespace std; code 17 void main(void) 10604760 -572662307 -572662307 -572662307 9042388 10604760 9042391 int *p; cout << (long)&p << endl;</pre> cout << p << endl;</pre> Stack p = (int*)malloc(3 * sizeof(int)); cout << (long)p << endl;</pre> 10604760 *p = 10;p[1] = 17;*(p + 2) = 23;Heap for (size_t i = 0; i < 3; i++) cout << p[i] << endl; free(p); Free cout << (long(p) << endl;</pre> store for (size_t i = 0; i < 3; i++) cout << p[i] << endl;

MEMORY POINTERS & DYNAMIC MEMORY ALLOCATTION PROGRAM OUTPUT 9042388 #include <iostream> ccccccc #include <cstdlib> 10604760 Program using namespace std; code void main(void) 10504/bu 572662307 9042388 9042391 10604760 int *p; cout << (long)&p << endl;</pre> cout << p << endl;</pre> Stack p = (int*)malloc(3 * sizeof(int)); cout << (long)p << endl;</pre> 10604760 *p = 10;p[1] = 17;*(p + 2) = 23;Heap for (size t i = 0; i < 3; i++) cout << p[i] << endl; free(p); Free cout << (long)p << endl;</pre> shouldn't store for (size_t i = 0; i < 3; i++) cout << p[i] << endl; do this