C PROGRAMMING LANGUAGE CERTIFIED ASSOCIATE – CLA

Sample Exam Questions

INSTITUTE

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Question 1

What happens if you try to compile and run this program?

```c
#include <stdio.h>
int main(void) {
    int i;
    i = 100;
     if(i > 100)
          i -= 100;
      else if(i >= 0)
          i += 100;
      else if(i)
          i += 100;
      else
          i -= 100;
      printf("%d",i);
      return 0;
  }
```

A. the program outputs 0
B. the program outputs 100
C. the program outputs 200
D. the program outputs 300

Question 2

What happens if you try to compile and run this program?

```c
#include <stdio.h>
int main(void) {
    int i = -100, j = 200;
    if(i > 0 && j < 0)
      i++;
    else if(i < 0 && j < 0)
      i--;
    else if(i < 0 && j > 0)
      j--;
    else
      j--;
    printf("%d",i + j);
    return 0;
}
```

A. the program outputs 99
B. the program outputs 100
C. the program outputs 101
D. the program outputs 102

What happens if you try to compile and run this program?

```
#include <stdio.h>
int main(void) {
    int i = -1,j = -i;
    int w1,w2;
    w1 = (i > 0) && (j < 0) || (i < 0) && (j > 0);
    w2 = (i <= 0) || (j >= 0) && (i >= 0) || (j <= 0);
    printf("%d",w1 == w2);
    return 0;
}
```

A. the program outputs 1
B. the program outputs 0
C. the program outputs -1
D. the program outputs -2

Question 4

What happens if you try to compile and run this program?

```c
#include <stdio.h>
int main(void) {
    int i,t[5];
    for(i = 0; i < 5; i++)
        t[i] = 2 * i;
    i = 0;
    for(i = 0; i < 5; i++)
        i += t[i];
    printf("%d",i);
    return 0;
}
```

A. the program outputs 12
B. the program outputs -12
C. the program outputs 13
D. the program outputs 14

Question 5

What happens if you try to compile and run this program?

```c
#include <stdio.h>
int main(void) {
    int i=10,j=20,*p,s=0;
    p = &i;
    i++;
    (*p)++;
    s = i + j + *p;
    printf("%d",s);
    return 0;
}
```

A. the program outputs 34
B. the program outputs 44
C. the program outputs 54
D. the program outputs 64

Question 6

What happens if you try to compile and run this program?

```c
#include <stdio.h>
#include <string.h>
int main(void) {
    char t[20] = "ABCDEFGHIJK";
    int  s = strlen(t);
    t[3] = '\0';
    s = strlen(t);
    printf("%d",s);
    return 0;
}
```

A. the program outputs 1
B. the program outputs 3
C. the program outputs 5
D. the program outputs 7

Question 7

What happens if you try to compile and run this program?

```c
#include <stdio.h>
#include <string.h>
int main(void) {
    char t[20] = "ABCDEFGHIJK";
    int  s = strlen(t);
    t[3] = '\0';
    s += strlen(t);
    strcpy(t,"ABCDEF");
    s += strlen(t);
    strcat(t,"ABC");
    s += strlen(t);
    printf("%d",s);
    return 0;
}
```

A. the program outputs 25
B. the program outputs 29
C. the program outputs 31
D. the program outputs 35

Question 8

What happens if you try to compile and run this program?

```c
#include <stdio.h>
int main(void) {
    int t[2][2];
    int i,j,s = 0;
    for(i = 0; i < 2; i++)
        for(j = 1; j >= 0; j--)
            t[i][j] = 2 * j + 1;
    printf("%d",t[1][0]);
    return 0;
}
```

A. the program outputs 1
B. the program outputs 2
C. the program outputs 3
D. the program outputs 4

Question 9

What happens if you try to compile and run this program?

```c
#include <stdio.h>
#include <stdlib.h>
int main(void) {
    char         *p;
    int     i;
    p = (char *)malloc(10);
    for(i = 0; i < 10; i++)
      p[i] = 'A' + i;
    printf("%c",*(p+9));
    free(p);
    return 0;
}
```

A. the program outputs J
B. the program outputs K
C. the program outputs L
D. the program outputs M

Question 10

What happens if you try to compile and run this program?

```c
#include <stdio.h>
#include <stdlib.h>
struct S1 {
    int p1,p2;
};
struct S2 {
    int p1;
    struct S1 s1;
    int p2;
};
int main(void) {
    int s = 0;
    struct S2 s2 = { 1, 2, 3, 4 };
    struct S2 *p;
    p = (struct S2 *)malloc(sizeof(struct S2));
    *p = s2;
    s2. p1 = 0;
    s = p->p1 + s2.p1 + p->p2 + p->s1.p2;
    free(p);
    printf("%d",s);
    return 0;
}
```

A. the program outputs 16
B. the program outputs 32
C. the program outputs 4
D. the program outputs 8

Question 11

What happens if you try to compile and run this program?

```
#include <stdio.h>
int main(void) {
    int t[2][3] = { { 3, 2, 1 }, { 1, 2, 3} };
    printf("%d", sizeof(t) / sizeof(t[1][1]));
    return 0;
}
```

A. the program outputs 6
B. the program outputs 3
C. the program outputs 2
D. the program outputs 4

Question 12

What happens if you try to compile and run this program?

```c
#include <stdio.h>
int add(int par) {
    par += par;
    return par;
}
int add2(int p1, int p2) {
    return p1 + p2;
}
int main(void) {
    int var = 0;
    var = add2(add(2),add(4));
    var = add2(var,var);
    printf("%d",var);
    return 0;
}
```

A. the program outputs 12
B. the program outputs 24
C. the program outputs 48
D. the program outputs 60

Question 13

What happens if you try to compile and run this program?

```c
#include <stdio.h>
#include <string.h>
void f(char *s) {
    s[1] = '\0';
}
int main(void) {
    char p1[] = "ABC", p2[] = "XYZ";
    f(p1);
    f(p2);
    printf("%d",strlen(p1) + strlen(p2));
    return 0;
}
```

A. the program outputs 0
B. the program outputs 1
C. the program outputs 1.5
D. the program outputs 2

What happens if you try to compile and run this program with the following command?
prog MARY HAD A LITTLE LAMB

```
#include <stdio.h>
#include <string.h>
int main(int argc, char *argv[]) {
    printf("%d", argc + strlen(argv[1]));
    return 0;
}
```

A. the program outputs 8
B. the program outputs 6
C. the program outputs 4
D. the program outputs 10

Question 15

What happens when you try to compile and run the following program?

```c
#include <stdio.h>
int main(void) {
   FILE *f;
    char s[] = "To be or not to be";
    long i;
    f = fopen("f","w+b");
    fputs(s,f);
    fseek(f,-2,SEEK_END);
    i = ftell(f);
    fclose(f);
    printf("%d",i);
    return 0;
}
```

A. the program outputs 18
B. the program outputs 2
C. the program outputs 16
D. the program outputs -2

Question 16

What happens when you try to compile and run the following program?

```c
#include <stdio.h>
int main(void) {
    FILE *f;
    int  i;
    f = fopen("f","w+b");
    fputs("123",f);
    rewind(f);
    fputs("3",f);
    fclose(f);
    f = fopen("f","rt");
    fscanf(f,"%d",&i);
    fclose(f);
    printf("%d",i);
    return 0;
}
```

A. the program outputs 123
B. the program outputs 323
C. the program outputs 232
D. the program outputs 132

Question 17

What happens when you try to compile and run the following program?

```c
#include <stdio.h>
int main(void) {
    FILE *f;
    int  i;
    f = fopen("f","wb");
    fwrite(f,2,1,f);
    fclose(f);
    f = fopen("f","rb");
    fseek(f,0,SEEK_END);
    i = ftell(f);
    fclose(f);
    printf("%d",i);
    return 0;
}
```

A. the program outputs 2
B. the program outputs 1
C. the program outputs 0
D. the program outputs -1

Question 18

How big is the file created by the following program?

```c
#include <stdio.h>
int main(void) {
    FILE *f;
    char s[] = "Mary had a little lamb", *p = s + 2;
    p[4] = '\0';
    f = fopen("f","wb");
    fputs(s,f);
    fclose(f);
    return 0;
}
```

A. 6 bytes
B. 18 bytes
C. 24 bytes
D. 30 bytes

What happens when you compile and run the following program?

```
#include <stdio.h>
#define F1(X)     X*X
#define F2(X)     ((X)*(X))
#define F3(X)     ((X)*X)
int main(void) {
    int i = 1;
    int j = 2;
    int k = 3;
    int s;
    s = F1(i + j) + F2(i - j) + F3(i + k);
    printf("%d",s);
    return 0;
}
```

A. the program outputs 10
B. the program outputs 13
C. the program outputs 16
D. the program outputs 7

Question 20

What happens when you compile and run the following program?

```
#include <stdio.h>
int vr = 10;
int fun1(int param) {
    int vr = 1;
    vr++;
    return vr + param;
}
int main(void) {
    printf("%d", fun1(1) + fun1(1));
    return 0;
}
```

A. the program outputs 4
B. the program outputs 5
C. the program outputs 6
D. the program outputs 7

Question 21

What happens when you compile and run the following program?

```c
#include <stdio.h>
int vr = 10;
int fun1(int param) {
    int vr;

    vr = 2;
    return vr + param;
}
int fun2(int param) {
    vr += param;
    return param + 1;
}
int main(void) {
    int s;
    vr /= 2;
    s = fun1(vr) + fun2(vr);
    printf("%d",s);
    return 0;
}
```

A. the program outputs 13
B. the program outputs 23
C. the program outputs 33
D. the program outputs 43

What happens when you compile and run the following program?

```c
#include <stdio.h>
#define CIT(X) #X;
#define CNC(X,Y,Z) X##Y##Z
#define VAL 641221
int main(void) {
    int i = CNC(64,12,21);
    int j = i + VAL;
    char *s = CIT(i);
    printf("%d%s",j,s);
    return 0;
}
```

A. the program outputs 1282442641221
B. the program outputs 1282442i
C. the program outputs 6412211282442
D. the program outputs 641221i

ANSWER KEY

1	2	3	4	5	6	7	8	9	10
C	A	A	C	B	B	B	A	A	D

11	12	13	14	15	16	17	18	19	20
A	B	D	D	C	B	A	A	B	C

21	22
A	B

More information about the CLA exam is available at:

http://cppinstitute.org/cla-c-programming-language-certified-associate

Exam registration:

http://pearsonvue.com/cpp

Study resources:

Cisco Networking Academy | CLA: Programming Essentials in C

(https://www.netacad.com/courses/cla-programming-c/)

C/C++ Education Platform

(http://cppinstitute.org/cla-course-an-overview)