

銘傳大學八十九學年度轉學生招生考試

八月二日 第三節

資傳 轉二

程式語言 試題

一、請說明下列程式的執行結果 (50%)

1) #include <stdio.h>

```
main()
{
    int a, b, c;
    a = b = c = 1;
    a += b += c;
    printf(" int = %d \n ", a < b ? b : a);
    printf(" int = %d \n ", a < b ? a ++ : b ++);
    printf(" a = %d\t b = %d\t c = %d\n", a ,b ,c);
    printf(" int = %d\n", c >= b >= a);
    printf(" int = %d\n", c >= b && b >= a);
}
```

2) #include <stdio.h>

```
main()
{
    int a = 2, b, c;
    a * = 3+2;
    printf("a = %d \n\n, a);
    a * = b = c = 4;
    printf("a = %d b=%d c = %d \n\n, a, b, c);
    a = b == c;
    printf("a=%d b=%d c=%d \n\n", a ,b ,c);
    a == (b = c);
    printf("a=%d b=%d c=%d \n\n", a ,b ,c);
}
```

3) #include <stdio.h>

```
main ()
{
    int a, b, c;
    a = b = c = 1;
    ++a || ++b && ++c;
    printf(" a = %d b = %d c = %d \n\n", a, b, c);
    a = b = c = 1;
    ++a && ++b || ++c;
```

```

printf(" a = %d b = %d c =%d \n\n", a, b, c);
a = b = c = 1;
++a && ++b && ++c;
printf(" a = %d b = %d c =%d \n\n", a, b, c);
a = b = c = -1;
++a && ++b || ++c;
printf(" a = %d b = %d c =%d \n\n", a, b, c);
a = b = c = -1;
++a || ++b && ++c;
printf(" a = %d b = %d c =%d \n\n", a, b, c);
a = b = c = -1;
++a && ++b && ++c;
printf(" a = %d b = %d c =%d \n\n", a, b, c);
}

```

4) #include <stdio.h>

```

main ( )
{
int a, b, c;
a = b = 0;
while (b<10) ++b; a +=b;
printf("a = %d b = %d \n", a, b);
a = b = 0;
while (b<10) a+= ++b;
printf ("a = %d b =%d\n", a,b)
b = 1;
while (b < 10)
{
a = b++;
c = ++b;
}
printf("a = %d b= %d c =%d\n", a, b);
for ( b = 1; b<10; b++); a = b;
printf("a =%d b =%d \n", a, b);
for ( b = 1; (a=b)<10; b++);
printf(" a = %d b = %d \n", a, b);
for ( a = 0, b = 1000; b>1; a ++, b /= 10);
printf( "a = %d b = %d \n", a, b);
}

```

5) #include <stdio.h>

```

void func( );
main ( )
{
char c;
for ( c = 'a'; c <= 'z' ; c++) func (c);
}

```

```

void func ( cc );
char cc;
{
    printf( "%c", cc - 'a' + 'A');
}

```

6)#include<stdio.h>

```

int i = 0 ;
main()
{
    auto int i = 1;
    printf("i = %d\n", I);
    {
        int i = 2;
        printf("i = %d\n, i);
        {
            i+= 1;
            printf("i = %d\n, i);
        }
        printf("i = %d \n", i);
    }
    printf("i = %d \n", I);
}

```

7)#include <stdio.h>

```

#define N3
#define N4
main()
{
    static int b1[N][M]={
                                {1, 2, 3, 4},
                                {5, 6, 7, 8},
                                {9, 10, 11, 12},
                                };

    int b2[N][M];
    int i, j;
    for ( i = 0; i<N; i++)
        for( j=0; j<M; j++)
            b2[i][j] = b1[I][M-i-j];
    printf("Matrix : \n);
    output(b2);
}
int a[N][M];
{
    int i, j;
    for(i=0; i<N; i++)
    {

```

```

    for(j=0; j<M; j++)
        printf("%2d", a[i][j]);
        printf("\n");
    }
    printf("\n\n");
}

```

8) #include<stdio.h>

```

main()
{
    static int n[10]={1, 0, 0, 0, 0, 0, 0, 0, 0, 0};
    int i, j;
    for(j=0; j<10; ++j)
        for(i=0; i<j; ++i)
            n[j]+=n[i];
    for(j=0, j<10; ++j)
        printf("%d\n", n[j]);
}

```

9)#include <stdio.h>

```

main()
{
    int a, b, c;
    a = 03;
    b = 02;
    c = 01;
    printf("%d \n", a|b & c);
    printf("%d \n", a|b & ~c);
    printf("%d \n", a^b & ~c);
    printf("%d \n\n", a & b && c);
    a = 1;
    b = -1;
    printf("%d \n", ! a | a );
    printf("%d \n", a | a );
    printf("%d \n\n", a ^ a );
    a <<= 3;
    printf("a = %d \n", a );
    b <<= 3;
    printf("b = %d \n", b );
    b >>= 3;
    printf("b = %d \n", b );
}

```

10)#include <stdio.h>

```

#define GENERIC_SORT(name, type, s) \
void name(a, n) \
type a[]; \
int n; \

```

```

{
    int i, j;
    type temp;
    for(i=0; i<n-1; i++)
        for(j=0; j<n-1; j++)
            if ( a[j] > a[j+1])
                {
                    temp = a[j];
                    a[j] = a[j+1];
                    a[j+1] = temp;
                }
}

```

GENERIC_SORT(int_sort, int, >)

GENERIC_SORT(double_sort, double, <)

main()

```

{
    static int k[] = {3, 6, 4, 8, 5, 1, 9, 2, 7, 0};
    static double x[] = {3, 6, 4, 8, 5, 1, 9, 2, 7, 0};
    int i;
    int_sort(k, 10);
    double_sort(x, 10);
    for( i=0; i<10; i++) printf(“%d  “, k[i]);
    printf(“\n\n”);
    for( i=0; i<10; i++) printf(“%4.2f  “, x[i]);
    printf(“\n”);
}

```

二、試用 C 語言設計一個遞迴式的函數(function)(10%)

$a(p, q) = 2xq$, 若 $p = 0$

$a(p, q) = 0$, 若 $p \geq 1$ 且 $q = 0$

$a(p, q) = 2$, 若 $p \geq 1$ 且 $q = 1$

$a(p, q) = a(p-1, a(p, q-1))$, 若 $p \geq 1$ 且 $q \geq 2$

(p, q 為大於等於 0 之整數)

三、試說明下列定義(20%)

- 1) char **ptr;
- 2) int *action[10];
- 3) int (*tatug)[10];
- 4) int *music[5][6];
- 5) char (*run)[8][9];
- 6) int *dump();
- 7) int (*dump)();
- 8) int *press()[4];

四、試解釋下列物件導向名詞

- 1) Information hiding
- 2) Abstract Data Type
- 3) Overloading function
- 4) Polymorphic function
- 5) Inheritance
- 6) Abstract class
- 7) Overriding
- 8) Constructor

〈 試題完 〉