

國立中興大學 107 學年度碩士班招生考試試題

科目：計算機概論

系所：科技管理研究所科技管理班甲組

本科目可以使用計算機

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1. (a) (5%) Please define the goal of Artificial Intelligence (AI)
- (b) (25%) The areas of AI can be decomposed into several sub-problems. Please describe five important sub-problems of AI and give your explanation for each of them?
- (c) (20%) Unmanned store is a store can entirely, or mostly, operate without any human intervention. Please describe four functions of unmanned stores that use AI technologies and give your explanation for each function.

2. (20%) Please read the following program segment and write down what will be printed out:

(a) (10%)

```
int main()
{
    int i,j;
    int k = 4;
    max = 5;
    for (i=0; i < max; i++) {
        for (j=0; j < k; j++) {
            printf(" ");
        }
        for (j=0; j <= i; j++) {
            printf("* ");
        }
        printf("\n");
        k = k - 1;
    }
    return 0;
}
```

(b) (10%)

```
int main()
{
    a = 1;
    while ( a <= 5 ) {
        b = 1;
        while ( b <= a ) {
            printf("%d", a);
            b = b + 1;
        }
        printf("\n");
        a = a + 1;
    }
}
```

3. (30%)

- (a) (15%) Use any programming language to write a program to validate the user input to be in the range 100-1000. The program should keep waiting user to enter a number. If the number is outside range 100-1000, then print out a warning message: "The number is outside the range. Please re-enter again". Otherwise, print out the number and wait for the next user input.
- (b) (15%) Use any programming language to write a program that finds and print out the second largest number from an array that stores any 100 integer numbers.