

1. How can you generate a **floating** random number whose value is between 5.0 and 10.0 ?

`5.0*rand()/RAND_MAX + 5`

2. Write a C code to compute

$$\frac{1}{1^2} + \frac{1}{5^2} + \frac{1}{9^2} + \frac{1}{13^2} + \dots + \frac{1}{101^2}.$$

`float sum=0; int i; for (i=0;i<=25;i++) sum=sum+1/pow(4*i+1,2);`

3. What does the following program output ?

```
#include <stdio.h>
int f(int n)
{
    if (n==1) return 0;
    if (n==2) return 1;
    return f(n-1)+ 2*f(n-2);
}
int main()
{
    printf("%d\n", f(6));
    return 0;
}
```

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4. What does the following program output ?

```
#include <stdio.h>

int main()
{
    int i, j;
    int a=0;
    for (i=0;i<3;i++)
        for (j=0;j<2;j++)
            a+=2*i+j-1;
    printf("%d\n", a);
    return 0;
}
```

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What does the following program output ?

5.

```
#include <stdio.h>
int main()
{
    float x=1, y=2;
    int i;
    for (i=0;i<3;i++)
        {x = -y+2.0*x;
        y = 2.0*y-1.0;
        }
    printf("%f\n", x);
    return 0;
}
```

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