

שאלה 4

להלן תכנית לחישוב מהיר של חזקה.

```
{{ X = a /\ Y = b /\ Z = 1 }}
```

```
->>
```

```
{{ ----- }}
```

```
while Y <> 0 do
```

```
    {{ ----- }}
```

```
    ->>
```

```
    {{ ----- }}
```

```
    if is_even(Y) then
```

```
        {{ ----- }}
```

```
        ->>
```

```
        {{ ----- }}
```

```
        Y := Y / 2
```

```
        {{ ----- }}
```

```
    else
```

```
        {{ ----- }}
```

```
        ->>
```

```
        {{ ----- }}
```

```
        Y := (Y-1) / 2;
```

```
        {{ ----- }}
```

```
        Z := X * Z
```

```
        {{ ----- }}
```

```
    end;
```

```
    {{ ----- }}
```

```
    X := X * X
```

```
    {{ ----- }}
```

```
end
```

```
{{ ----- }}
```

```
->>
```

```
{{ Z = ab }}
```